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EDUCATIONAL REVIEW

PUBLISHED MONTHLY

Except July and August

VOLUME XXIV

JUNE—DECEMBER

1902

RAHWAY, N. J., AND NEW YORK
EDUCATIONAL REVIEW PUBLISHING COMPANY
PARIS: F. ALCAN BERLIN: MAYER & MÜLLER
LONDON: THE AMERICAN SCHOOL AND COLLEGE TEXT-BOOK AGENCY
CHICAGO. A. W. MUMFORD, 203 MICHIGAN AVENUE

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EDITOR

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THE MERSHON COMPANY PRESS,
RAHWAY, N. J.

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The names of contributors are printed in SMALL CAPITALS; subjects, treated in ordinary type; titles of books reviewed, in *italics*.

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370.5 Ed 8
24-1 Ref.

EDUCATIONAL REVIEW

JUNE, 1902

24152.

I

SCHOLARSHIP AND SERVICE[1]

President Roosevelt, Mr. Chairman and gentlemen of the Trustees, my associates of the faculties, alumni and students of Columbia, our welcome guests, ladies and gentlemen :

For these kindly and generous greetings I am profoundly grateful. To make adequate response to them is beyond my power. The words that have been spoken humble as well as inspire. They express a confidence and a hopefulness which it will tax human capacity to the utmost to justify, while they picture a possible future for this university which fires the imagination and stirs the soul. We may truthfully say of Columbia, as Daniel Webster said of Massachusetts, that her past, at least, is secure; and we look into the future with high hope and happy augury.

To-day it would be pleasant to dwell upon the labors and the service of the splendid body of men and women, the university's teaching scholars, in whose keeping the honor and the glory of Columbia rest. Their learning, their devotion, and their skill call gratitude to the heart and words of praise to the lips. It would be pleasant, too, to think aloud of the procession of men which has gone out from Columbia's doors for well-nigh a century and a half to serve God and the state; and of those younger ones who are even now lighting the lamps of their lives at the altar-fires of eternal truth. Equally pleasant would it be to pause to tell those who labor with us—north, south, east, and west—and our nation's schools, higher and lower alike, how much they have taught us and by what bonds of affection and fellow-service we are linked to them.

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[1] Inaugural address upon being installed as President of Columbia University, April 19, 1902.

All these themes crowd the mind as we reflect upon the significance of the ideals which we are gathered to celebrate; for this is no personal function. The passing of position or power from one servant of the university to another is but an incident; the university itself is lasting, let us hope eternal. Its spirit and its life, its usefulness and its service, are the proper subject for our contemplation to-day.

The shifting panorama of the centuries reveals three separate and underlying forces which shape and direct the higher civilization. Two of these have a spiritual character, and one appears to be, in part, at least, economic, altho clearer vision may one day show that they all spring from a common source. These three forces are the church, the state, and science, or better, scholarship. Many have been their interdependences and manifold their intertwinings. Now one, now another seems uppermost. Charlemagne, Hildebrand, Darwin are central figures, each for his time. At one epoch these forces are in alliance, at another in opposition. Socrates died in prison, Bruno at the stake. Marcus Aurelius sat on an emperor's throne, and Thomas Aquinas ruled the mind of a universal church. All else is tributary to these three, and we grow in civilization as mankind comes to recognize the existence and the importance of each.

It is commonplace that in the earliest family-community church and state were one. The patriarch was both ruler and priest. There was neither division of labor nor separation of function. When development took place, church and state, while still substantially one, had distinct organs of expression. These often clashed, and the separation of the two principles was thereby hastened. As yet scholarship had hardly any representatives. When they did begin to appear, when science and philosophy took their rise, they were often prophets without honor either within or without their own country, and were either misunderstood or persecuted by church and state alike. But the time came when scholarship, truth-seeking for its own sake, had so far justified itself that both church and state united to give it permanent organization and a visible body. This organization and body was the university. For nearly ten centuries—a period longer than the history of parliamentary government or of Protestantism—the university has existed to embody the spirit of scholarship. Its arms have been extended to every science and to all letters. It has known periods of doubt, of weakness, and of obscurantism; but the spirit which gave it life has persisted and has overcome every obstacle. To-day, in the opening century, the university proudly asserts itself in every civilized land, not least in our own, as the bearer of a tradition and the servant of an ideal without which life would be barren, and the two remaining principles which underlie civilization robbed of half their power. To destroy the university would be to turn back the hands upon the dial of history for centuries; to cripple it is to put shackles upon every forward movement that we prize—research, industry, commerce, the liberal and practical arts and sciences. To support and enhance it is to set free new and vitalizing energy in every field of human endeavor. Scholarship has shown the world that knowledge is convertible into comfort, prosperity, and success, as well as into new and higher types of social order and of spirituality. "Take fast hold of instruction," said the Wise Man; "let her not go: keep her; for she is thy life."

Man's conception of what is most worth knowing and reflecting upon, of what may best compel his scholarly energies, has changed greatly with the years. His earliest impressions were of his own insignificance and of the stupendous powers and forces by which he was surrounded and ruled. The heavenly fires, the storm-cloud and the thunderbolt, the rush of waters and the change of seasons, all filled him with an awe which straightway saw in them manifestations of the superhuman and the divine. Man was absorbed in nature, a mythical and legendary nature to be sure, but still the nature out of which science was one day to arise. Then, at the call of Socrates, he turned his back on nature and sought to know himself; to learn the secrets of those mysterious and hidden processes by which he felt and thought and acted. The intellectual center of gravity had passed from nature to man. From that day to this the goal of scholarship has been the understanding of both nature and man, the uniting of them in one scheme or plan of knowledge, and the explaining of them as the offspring of the omnipotent activity of a Creative Spirit, the Christian God. Slow and painful have been the steps toward the goal which to St. Augustine seemed so near at hand, but which has receded thru the intervening centuries as the problems grew more complex and as the processes of inquiry became so refined that whole worlds of new and unsuspected facts revealed themselves. Scholars divided into two camps. The one would have ultimate and complete explanations at any cost; the other, overcome by the greatness of the undertaking, held that no explanation in a large or general way was possible. The one camp bred sciolism; the other narrow and helpless specialization.

At this point the modern university problem took its rise; and for over four hundred years the university has been striving to adjust its organization so that it may most effectively bend its energies to the solution of the problem as it is. For this purpose the university's scholars have unconsciously divided themselves into three types or classes: those who investigate and break new ground; those who explain, apply, and make understandable the fruits of new investigation; and those philosophically minded teachers who relate the new to the old, and, without dogma or intolerance, point to the lessons taught by the developing human spirit from its first blind gropings toward the light on the uplands of Asia or by the shores of the Mediterranean, thru the insights of the world's great poets, artists, scientists, philosophers, statesmen, and priests, to its highly organized institutional and intellectual life of to-day. The purpose of scholarly activity requires for its accomplishment men of each of these three types. They are allies, not enemies; and happy the age, the people, or the university in which all three are well represented. It is for this reason that the university which does not strive to widen the boundaries of human knowledge, to tell the story of the new in terms that those familiar with the old can understand, and to put before its students a philosophical interpretation of historic civilization, is, I think, falling short of the demands which both society and university ideals themselves may fairly make.

A group of distinguished scholars in separate and narrow fields can no more constitute a university than a bundle of admirably developed nerves, without a brain and spinal cord, can produce all the activities of the human organism. It may be said, I think, of the unrelated and unexplained specialist, as Matthew Arnold said of the Puritan, that he is in great danger because he imagines himself in possession of a rule telling him the *unum necessarium,* or one thing needful, and that he then remains satisfied with a very crude conception of what this rule really is, and what it tells him, and in this dangerous state of assurance and self-satisfaction proceeds to give full swing to a number of the instincts of his ordinary self. And these instincts, since he is but human, are toward a general view of the world from the very narrow and isolated spot on which he stands. Only the largest and bravest spirits can become great specialists in scholarship and resist this instinctive tendency to hasty and crude philosophizing. The true scholar is one who has been brought to see the full meaning of the words development and history. He must, in other words, be a free man as Aristotle understood the term. The free man is he who has a largeness of view which is unmistakable and which permits him to see the other side; a knowledge of the course of man's intellectual history and its meaning; a grasp of principles and a standard for judging them; the power and habit of reflection firmly established; a fine feeling for moral and intellectual distinctions; and the kindliness of spirit and nobility of purpose which are the support of genuine character. On this foundation highly specialized knowledge is scholarship; on a foundation of mere skill, deftness, or erudition it is not. The university is concerned with the promotion of the true scholarship. It asks it in its scholars who teach; it inculcates it in its scholars who learn. It believes that the languages, the literatures, the art, the science, and the institutions of those historic peoples who have successively occupied the center of the stage on which the great human drama is being acted out, are full of significance for the world of to-day; and it asks that those students who come to it to be led into special fields of inquiry, of professional study, or of practical application, shall have come to know something of all this in an earlier period of general and liberal studies.

Mr. Emerson's oration before the oldest American society of scholars, made nearly sixty-five years ago, is the magnetic pole toward which all other discussions of scholarship must inevitably point. His superb apology for scholarship and for the scholar as Man Thinking, opened an era in our nation's intellectual life. The scholar, as Mr. Emerson drew him, is not oppressed by nature or averse from it, for he knows it as the opposite of his soul, answering to it part for part. He is not weighed down by books or by the views which Cicero, which Locke, which Bacon have given, for he knows that they were young men like himself when they wrote their books and gave their views. He is not a recluse or unfit for practical work, because he knows that every opportunity for action passed by is a loss of power. The scholar in short, as the university views him and aims to conserve and to produce him and his type, is a free man, thinking and acting in the light of the world's knowledge and guided by its highest ideals.

In this sense the university is the organ of scholarship, and in this sense it aims to be its embodiment. The place of scholarship has been long since won and is more widely recognized and acknowledged than ever before. The church and the state which first gave it independence are in close alliance with it and it with them. The three are uniting in the effort to produce a reverent, well-ordered, and thoughtful democratic civilization in which the eternal standards of righteousness and truth will increasingly prevail.

But a university is not for scholarship alone. In these modern days the university is not apart from the activities of the world, but in them and of them. It deals with real problems and it relates itself to life as it is. The university is for both scholarship and service; and herein lies that ethical quality which makes the university a real person, bound by its very nature to the service of others. To fulfill its high calling the university must give and give freely to its students, to the world of learning and of scholarship, to the development of trade, commerce, and industry, to the community in which it has its home, and to the state and nation whose foster-child it is. A university's capacity for service is the rightful measure of its importunity. The university's service is to-day far greater, far more expensive, and in ways far more numerous than ever before. It has only lately learned to serve, and hence it has only lately learned the possibilities that lie open before it. Every legitimate demand for guidance, for leadership, for expert knowledge, for trained skill, for personal service, it is the bounden duty of the university to meet. It may not urge that it is too busy accumulating stores of learning and teaching students. Serve it must, as well as accumulate and teach, upon pain of loss of moral power and impairment of usefulness. At every call it must show that it is

> "Strong for service still, and unimpaired."

The time-old troubles of town and gown are relics of an academic aloofness which was never desirable and which is no longer possible.

In order to prepare itself for efficient service the university must count in its ranks men competent to be the intellectual and spiritual leaders of the nation and competent to train others for leadership. Great personalities make great universities. And great personalities must be left free to grow and express themselves, each in his own way, if they are to reach a maximum of efficiency.

Spiritual life is subject neither to mathematical rule nor to chemical analysis. Rational freedom is the goal toward which the human spirit moves, slowly but irresistibly, as the solar system toward a point in the constellation Hercules; and rational freedom is the best method for its movement. Moreover, different subjects in the field of knowledge and its applications require different approach and different treatment.

It is the business of the university to foster each and all. It gives its powerful support to the learned professions, whose traditional number has of late been added to by architecture, engineering, and teaching, all of which are closely interwoven with the welfare of the community. It urges forward its investigators in every department, and rewards their achievements with the academic laurel. It studies the conditions under which school and college education may best be given, and it takes active part in advancing them. In particular, it guards the priceless treasure of that liberal learning which I have described as underlying all true scholarship, and gives to it full-hearted care and protection. These are all acts of service direct and powerful.

The university does still more. It lends its members for expert and helpful service to nation, State, and city. University men are rapidly mobilized for diplomatic service, for the negotiation of important treaties, for the administration of dependencies, for special and confidential service to the government, or some department of it, and, the task done, they return quietly to the ranks of teaching scholars, as the soldiers in the armies of the war between the States went back to civil life without delay or friction. These same university men are found foremost in the ranks of good citizenship everywhere and as laymen in the service of the church. They carry hither and yon their practical idealism, their discliplined minds, and their full information, and no human interest is without their helpful and supporting strength. It is in ways like these that the university has shown, a thousand times, that sound theory and correct practice are two sides of a shield. A theorist is one who sees, and the practical man must be in touch with theory if he is to see what it is that he does.

What the future development of the great universities is to be perhaps no one can foresee. But this much is certain: Every city which, because of its size or wealth or position, aims to be a center of enlightenment and a true world-capital must be the home of a great university. Here students and teachers will throng by the mere force of intellectual gravitation, and here service will abound from the mere host of opportunities.

The city, not in its corporate capacity, but as a spiritual entity, will be the main support of the university, and the university in turn will be the chief servant of the city's higher life. True citizens will vie with each other in strengthening the university for scholarship and for service. In doing so they can say, with Horace, that they have builded themselves monuments more lasting than bronze and loftier than the pyramids reared by kings, monuments which neither flood nor storm nor the long flight of years can overturn or destroy. Sir John de Balliol, doing a penance fixed by the Abbot of Durham; Walter de Merton, making over his manor house and estates to secure to others the advantages which he had not himself enjoyed; John Harvard, leaving half his property and his library to the infant college by the Charles, and Elihu Yale, giving money and his books to the collegiate school in New Haven, have written their names on the roll of the immortals and have conferred untold benefits upon the human race. Who were their wealthy, powerful, and highborn contemporaries? Where are they in the grateful esteem of the generations that have come after them? What service have they made possible? What now avails their wealth, their power, their high birth? Balliol, Merton, Harvard, Yale, are names known wherever the English language is spoken and beyond. They signify high purpose, zeal for learning, opposition to philistinism and ignorance. They are closely interwoven with the social, the religious, the political, the literary history of our race. Where else are there monuments such as theirs?

Scholarship and service are the true university's ideal. The university of to-day is not the "home of lost causes, and forsaken beliefs, and unpopular names, and impossible loyalties." It keeps step with the march of progress, widens its sympathies with growing knowledge, and among a democratic people seeks only to instruct, to uplift, and to serve, in order that the cause of religion and learning, and of human freedom and opportunity, may be continually advanced from century to century and from age to age.

Nicholas Murray Butler

Columbia University

II

SHALL THE STATE RESTRICT THE USE OF THE TERMS COLLEGE AND UNIVERSITY?[1]

There is no other one word which goes so far to indicate the history and to express the purposes of a free state as the word education. There may be a wide difference between a nation and a state. One may grow naturally enough out of barbarian life without intellectual or moral self-activity, but the other must be created thru the affirmative action of the people, by the deliberate grant of the common power, thru conventions marked by intelligence and moving in the light of world progress. A state is the product of a very considerable intellectual and moral advance; its purpose is not mere security from peril, but the assurance of the just rights and the free opportunities of each individual and of the healthful onward march of the whole mass.

Then, on the face of things, it would seem obvious enough that a state may do even more; that it is bound to do anything which it thinks will promote the purposes for which it exists. In all bodies of people there are some who have to be controlled, restrained, and punished. Standards must differ widely in different peoples. Where the ideals are the highest the policies must be the most aggressive. It seems difficult to say why a state, which exists for moral right and for mental progress, is not bound to stop any wrongful or inconsiderate action which deceives its people and thwarts its purposes, quite as much as a tribe or a nation, which exists for security alone, is bound to stop crimes against person and property.

Colleges and universities are the instruments of free states. They are complicated and costly instruments. Their faculties are constituted of specialists of liberal training and large experience; their equipments are extensive and expensive; their history, their traditions, and the work of their graduates give them character and renown. They are ordinarily continuing and permanent institutions. Their commendations are of recognized value. The very name college or university conveys meanings which are significant of importance and well understood among intelligent people. And this is the very reason why they have been so much employed by miscellaneous institutions which exist for commercial gain alone. The question is whether such unwarranted use should be prohibited.

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[1] An address delivered before the North Central Association of Colleges and Secondary Schools, at Cleveland, O., March 29, 1902.

Probably this question could not arise in governments which are strongly centralized, for no one would think of employing these names except by the express approval and leave of those governments. Is the free appropriation of sacred things to commercial pursuits one of the privileges which specially inhere in a democracy?

So far as I know, there has been but one attempt by an American legislature to limit the use of the terms college or university. That attempt is, therefore, noteworthy. In the State of New York the Legislature of 1892 passed a new university law, and carefully tucked away in the inner recesses of a statute drafted by Melvil Dewey,—an educational artist who never hesitated at an undertaking because its character was unique or its propositions were heroic,—was this rather drastic and aggressive section:

> 33 Prohibitions. No individual, association or corporation not holding university or college degree-conferring powers by special charter from the legislature of this state or from the regents, shall confer any degrees, nor after January 1, 1893, shall transact business under, or in any way assume the name university or college, till it shall have received from the regents under their seal written permission to use such name, and no such permission shall be granted by the regents, except on favorable report after personal inspection of the institution by an officer of the University. No person shall buy, sell or fraudulently or illegally make or alter, give, issue or obtain any diploma, certificate, or other instrument purporting to confer any literary, scientific, professional or other degree, or to constitute any license, or to certify to the completion in whole or in part of any course of study in any university, college, academy or other educational institution. Nor shall any person with intent to deceive, falsely represent himself to have received any such degree or credential. Counterfeiting or falsely or without authority making or altering in a material respect any such cre-

dential issued under seal shall be a felony, and any other violation of this section shall be a misdemeanor; and any person who aids or abets another, or advertises or offers himself to violate the provisions of this section, shall be liable to the same penalties.

Altho, apparently, there has been no other attempt to restrict the use of the terms college and university there has been much discussion, and some little progress, toward the state control of institutions which assume to confer scholastic degrees. In several other States there have been movements against the conferring of degrees except under the authorization of the state, and attempts to fix the minimum limit of endowment, faculty, entrance requirements, and course of study precedent to the grant of authority. But it must be said that legislation in this direction has not so far met with ready or general favor. It has been opposed by interests which either feared its effect upon themselves, or misapprehended its purpose, and were able to make legislators conclude too quickly that it was aristocratic in its tendency and a needless limitation upon democratic freedom.

As between the two propositions that the degree-conferring power must come from and be regulated by the state, and that the use of terms by which institutions are designated may be restricted by the state, there is probably no difference in principle, and if they are to be enacted into law elsewhere they may very well go together, as they do in the New York statute.

As I understand it, this kind of legislation is intended to remedy two evils which have resulted from our growth in population and in wealth and are the offspring of the educational advance and of rampant commercialism. One is the naked fraud, but poorly disguised, of selling spurious degrees for cash; the other deludes the young or the inexperienced by pretending to do what it is incapable of doing. Men who are responsible for the first are moral criminals, and statutes should make them legal criminals and punish them for it. The degrees of culpability for the second are endless, and the shades of responsibility are infinite. Men sometimes deceive themselves. Some do not know, and some do not care. Some mean well and do ill. They do not see the line between genuineness and pretense, between the real and the spurious. It is said that this misleads the crowd; that it discredits the worthy; that society must protect its members and promote the common welfare by determining by whom and how works of public interest shall be carried on, and by limiting terms of well-settled interpretation to the use intended by the very common sentiment.

There are concerns, some of them incorporated under the forms of law, which have no building, no campus, and no teaching staff, and yet which are assuming to confer literary, scientific, and professional degrees for cash; and their transactions are not few in number. They need not take our time; there is no room for a question about them, for the fraudulent intent is clear, and society is bound to outlaw and to punish educational as other frauds.

But what should the state do as to institutions with more or less genuineness of purpose, and more or less ignorance, which are pretending the impossible as a means of livelihood? There are institutions advertising themselves as colleges and universities and assuming to confer degrees, which lack the means to do the work that any intelligent community can accept as the foundation for the academic degrees. What about them? There are concerns with signs which are absurd and amusing. Hard by the deep shadow of one of the most prominent universities of the country I saw recently the glaring insignia which proclaimed two institutions of learning within. One taught blacksmiths and was a " Blacksmithing university," and the other trained barbers and was a " Shaving college." What about such as these and others of the same species, but with less unconscious humor about them?

If it is difficult to make the crowd see the wrong which these things work to some and the demoralization which they bring upon the solid educational work of the country, it will not be necessary to urge that phase of the subject here. We turn at once to the discussion of what course should be taken, and ask whether these matters come within the scope of the lawful action of a democratic state, and if so what is expedient in the premises.

We are upon very solid ground when we accept the definitions of the *American and English Cyclopædia of law* (vol. xxvii, p. 632) as to what colleges and universities are. It defines a university to be "an institution of higher learning consisting of an assemblage of colleges united under one corporate organization and government, affording instruction in the arts, sciences, and the learned professions and conferring degrees." It declares a college to be "an organized assembly or collection of persons established by law and empowered to co-operate for the performance of some special function, or for the promotion of some given object, which may be educational, political, ecclesiastical, or scientific in its character."

It has been sufficiently held by the American courts and is generally accepted that a college or university cannot do things which are not specifically or impliedly granted in the charter or the act under which it is incorporated, and has no power to confer degrees or to grant diplomas unless the power is expressly given by the legislature.

This is much, for it goes very definitely to the source of the degree-conferring power. It might well be made more of, because it is so much easier to accentuate the powers of legislatures in the minds of legislators and to induce them to fix the terms upon which they will grant the powers of the state than it is to procure the passage of laws making misdemeanors of conduct which does not seem very heinous to the legislative mind. And it must be said that good, strong, affirmative legislation, and much of it, upon the equipment and powers of colleges and universities, upon the conditions precedent to the granting of degrees, would work a very invigorating effect, both directly and by reflex action, upon the educational situation of the country.

But of course this does not meet the question, What is to be done with those who want to follow an educational business for what money there is in it, and who cannot carry on that business upon a plane to command the approval of the state? What about those whose ignorance, or indifference, or cupidity, leads them to make public pretenses which are impossible and absurd, misleading and demoralizing?

If the state is definitely to assume exclusive authority over the power to confer academic degrees and to prescribe the organization, resources, and outfit of colleges and universities, and then to outlaw all concerns which do not meet its requirements, and prohibit them from using the names which it reserves for the institutions which it sanctions, it must do more than grant authority to do what it approves: it must stop others from doing, or pretending to do, the same things without its approval. This involves the exercise of what is called the police power.

The police power—its growth, its scope, and its limitations—can only be referred to here. It cannot be discussed, for volumes are inadequate to its comprehensive exploitation. It would be presumptuous even to attempt to define it. The most learned judges and text-writers have declared that it cannot be defined. In the most general way it may be said that it is the power which has arisen in organized society to regulate its affairs in the interests of the common welfare and progress. It not only allows; it forbids and punishes. It has enlarged and extended as communities have increased and society has advanced. It goes beyond the punishment of the recognized crimes and concerns itself with the life and health of the citizen, with the enjoyment of private and social life, with the comfort of existence in dense population, and with the intellectual progress of the masses.

The police power is the trenchant instrument of democracy, and for reasons quite obvious it has had its fullest development and its widest application in this country. The matters upon which it has assumed to act can hardly be enumerated, but the comprehensiveness of its scope may be indicated by a partial statement of them.

It has undertaken to make dwellings sanitary and to provide means of escape from fire; to regulate the sale of drinks and to prevent the adulteration of foods; to prevent nuisances and to stop games which are hurtful or demoralizing. It supervises transportation companies, insurance companies, building associations, banks, and the like, and sternly prohibits the carrying on of these businesses except by the leave of the state. It regulates innkeepers, hack-drivers, and auctioneers. It forbids the practice of many of the professions until the candidate has passed such tests as it prescribes. It refuses permission to teach in the schools until the preparation which it exacts has been accomplished. It even assumes to interdict many of the occupations of skilled labor until it places the mark of its approval upon the workman, and it controls many of the ordinary vocations for the sake of the common good.

Under this power it has been held that the state may tear down a house which is going to decay or one which promises to be food for a conflagration; that it may slaughter cattle with infectious diseases; that it may compel vaccination and confine the insane or those afflicted with contagious diseases; that it may restrain vagrants and beggars and drunkards; that it may suppress obscene publications and houses of ill fame; that it may establish the places where and the conditions upon which certain legitimate callings may be carried on; and that it may fix the price at which water may be sold by one who has a monopoly of it.

The highest court in the land, and by far the most august in the world, has held that under the police power a State may regulate and fix the charges which the owners of private property holding themselves out to do a general business may exact of customers who require their service and the use of that property, whenever it appears that they have a monopoly of the business and it has come to be of public interest. The right to regulate and control involves the right to suppress, if conditions make it necessary. The Supreme Court has held that a valuable property, built up under the protection of the law, may be confiscated and destroyed without compensation under the police power of a State, after an amendment to the State constitution had made the business carried on in that property unlawful, and this notwithstanding the provision in the Federal Constitution against taking property without due process of law, and the other one against impairing the obligation of contracts. The gist of all this is that when a public interest is involved the legislature may intervene and go all lengths to promote it; that whenever a matter is determined to be of a public as distinguished from a private character, the State may do whatever in its judgment may be necessary concerning it.

In a word it may be said that the police power of the State extends to every matter involving the well-being of the community, whether it be moral or social, industrial, or intellectual and educational.

There are, of course, limitations upon the exercise of this power. It must not contravene the principles established in the charters of English liberty, and it must not get in conflict with the provisions of our State and Federal constitutions. This gives rise to the most intricate legal questions. No law questions have ever so taxed the learning of any court in the world, and, it may be added, have been so safely met as those which have required the Supreme Court of the United States to determine whether the exercise of the police power in certain cases was in conflict with provisions of the Federal Constitution, and particularly whether it was obnoxious to the Civil Rights Amendments thereto.

Of course the exercise of the police power must be in good faith, and not to gain any fatuous or sinister end. It cannot be used as an instrument of persecution. One's right to pursue any business he chooses up to the point where it conflicts with the common welfare is fundamental, but everything hurtful to the public interests may be restricted and prohibited. Whether a statute invades a fundamental right, whether it helps or hurts the common good, whether it conflicts with any of the provisions of the constitution are questions for the courts. Therefore the exercise of the police power must rest in the sound discretion of the legislative branch, and must have the approval of the judicial branch of the government. Within these limits it is untrammeled. The courts will uphold the legislative discretion unless it has fallen into fundamental error.

Fortunately, in our system the responsibility for public education is with the same authority which is charged with the proper exercise of the police power. Our educational systems are State systems. They are not city, county, town, or district systems except as the State legislatures delegate authority to cities, counties, towns, or districts. Such delegation of authority may be modified or taken away. The supervision of educational work, the provision and direction of educational instrumentalities, are with the States. These things have never been ceded to the Union. Many of the State constitutions say so. The legislatures and the highest courts in many of the States have said so. The Supreme Court of the United States has said so. The Federal Government may aid and encourage, but it cannot direct or control, education in the States. Of course it may, and must, in the Territories. It has never claimed anything else. The Constitution of the United States contains no reference to the matter. That great document is silent upon the subject of first public concern. It is not because the men who framed it were ignorant or indifferent. They were the very best men in the country: half of them were college graduates. It is because it was deemed best to leave the whole matter with the States, and experience has proved, overwhelmingly, the wisdom of the course. The plan is a wise and beneficent one; it has located authority and responsibility within the popular reach; it has given the educational system its largest opportunities, while it has made it adaptable to the circumstances of all sections of the country.

Educationists of all others should understand this, but the very elect get befogged about it. Last summer, when the adverse report of its committee on a national university was presented to the National Council of Education, some of the past-masters of American education became frantic over it. Happily Mr. Carnegie's munificence has relieved the whole situation, made further discussion of a national university superfluous, and released Congress from the temptation to do much shuffling and prevarication to educational constituents, and lifted the courts out of peril of differences with the Council of Education.

It is a power which, under our system, inheres in the several States. It has never been ceded to the General Government and has never been claimed by it. It is a sacred trust which the people have confided in the State legislatures and which those bodies will neither be allowed to abuse nor divest themselves of, but must administer for the good of all, without fear and without favor.

All this points very conclusively to the undoubted power of the States to do whatever they may think well to uplift and advance education. Nothing which they may do in this connection is likely to impinge upon any of the fundamental rights of man, or to conflict with any of the provisions which the well-being of the common brotherhood and interstate comity have led us to place in the Federal Constitution. There can be no doubt of the right of any of our States to prohibit the conferring of academic degrees without express authorization, and to restrict the use of names to institutions which it approves and for which it reserves them.

It must be said, moreover, that the state has a responsibility and a duty as well as a power in the premises. Colleges and universities are historic. They have come down to us out of the very dim past. By the common understanding and usage of civilization they are creatures of the sovereign power. Academic, scientific, and professional degrees are things of real value, distinctions obtained by long labor under state supervision and certification. They are authoritative commendations to public confidence; often they grant the state's permission to practice professions; the system is not only to commend attainments and certify scholarship, but to save the public from imposition; they are things in which there is a property value. By the common understanding and usage of civilization degrees can be conferred by colleges and universities alone. Therefore no degrees can be conferred except thru the leave of the state, and there are no colleges and universities unless set up or authorized by the state. Then all other institutions calling themselves colleges and universities and all degrees they confer are in a legal and public sense spurious, and it is the business of a state to use the police power to suppress things which are spurious, in order that they may not mislead the ignorant and seem to lessen the true value of things that are real.

If a man holds himself out to the public to carry on public work the law presumes that he has the skill and ability to carry on his calling, and if he has not he is liable in an action of tort to any who employ him and suffer by his lack of skill and ability. Is not the state remiss if it permits one to impose thus on the public, and does it not render itself in a way a party to the fraud and injury?

There has already been much legislation thruout the country against impure and imitation foods. Oleomargarine, or imitation butter, has in places been altogether prohibited. More generally the use of coloring matter, employed to make people think it was butter, has been prohibited. At the present session of Congress a bill has passed the House, and seems likely to pass the Senate, laying an internal revenue tax of one-fourth of one cent per pound upon oleomargarine when not colored to imitate butter, and a tax of ten cents per pound when any coloring matter enters into it. The laws have very generally required the venders of oleomargarine to stamp plainly the true character of the contents upon the package. And all this not in the interests of health, for it is admitted that oleomargarine is not unwholesome, but in the interest of honesty and fair dealing. It is all done to save the public from imposition, and to protect the dairymen against competition in the dark with an imitation which can be produced at a small part of the cost of the real article. Does not the same principle apply to fraudulent colleges or imitation universities?

Of course there are those who take the view that the function of a state is to assure immunity from hurt to person and to property. They seem to think that the only right of a state is to protect its citizens from aggression. That is not the accepted view in this country. The general view is that it is not only the business of the state to protect the lives, liberty, and property of the people, but also to promote the health, peace, order, morals, and learning of the nation. This it is which, in its public manifestation, distinguishes democracy from the more consolidated forms of government. It is at once the mission and measure of our democracy. Thank Heaven! our governmental system is a marching and an advancing one. It was never intended to stand still. Principles, the guides of action, are imbedded in conscience and are stable, but moral and intellectual life is to move forward and upward. The combined power of the people is to protect it, guide it, and help it on its way.

It goes without saying that it is the function of the state to encourage moral and intellectual self-activity. It is to help on educational enterprises which are meritorious, tho young and weak. But this does not mean that the state is to have no educational standards, that it is to permit the indiscriminate exercise of that authority of which it is the exclusive source and which it is bound to use with deliberate and sound discretion, or that it is to allow the misappropriation for commercial or other purposes of terms which have come to be well defined, which imply public service, and which can be rightfully applied only to institutions capable of promoting the national ideals and desirous of serving the general ends.

As society grows in volume and advances intellectually, the necessity for a larger use of the common power for the common good becomes more imperative. The whole world is relative. Ideals and policies change with conditions. Rural life does not require the same regulative policies that are needed in urban life, for rural life is happily free from much of the deceit and imposition so rampant in urban life. Newly settled states do not sustain the same regulative policies in education or other matters which the stability and the strength of older states require them to enforce. The advance of states to real statehood, the rise of democracy in structure and in spirit to the point where it can stand strains and gain confidence, where it can suppress the evil and give free flow to the good there is in the lives and souls of the people, is measured by the common understandings which are so well intrenched that they need not be written in the law books, or else by statutes and decisions which its constituted authorities have made. States are not comprised exclusively of people who can live in peace and security and grow in morals and intelligence without any government at all. Government is not a pastime. States must limit and restrict the wrong, and set up institutions, and point the true way. Learning, the life-blood of democracy, will not flow in the veins of a commonwealth which cannot understand this, or is so weak and so lacking in character that it cannot exercise its authority to accomplish these ends.

Then it seems to me that, upon the subject under discussion, we can come to no other conclusion than that the state should not allow any institution to confer academic degrees except by its express authority, and that it should restrict the use of the terms "college" and "university" to institutions which have the state's authority to confer degrees.

And it would seem also that institutions should not be allowed to appropriate names which belong to all the people. The names of States, or cities, or towns should not be permitted to be used except by the special leave of the State, or the city, or the town to which they belong, and, perhaps better still, they should not be permitted to be applied to institutions other than those which are set up, maintained, and controlled by the State, or city, or town, whose name they would bear. Any other course is misleading, deceives some, and wrongs all, for it gives to a few what is within the proprietary ownership of all.

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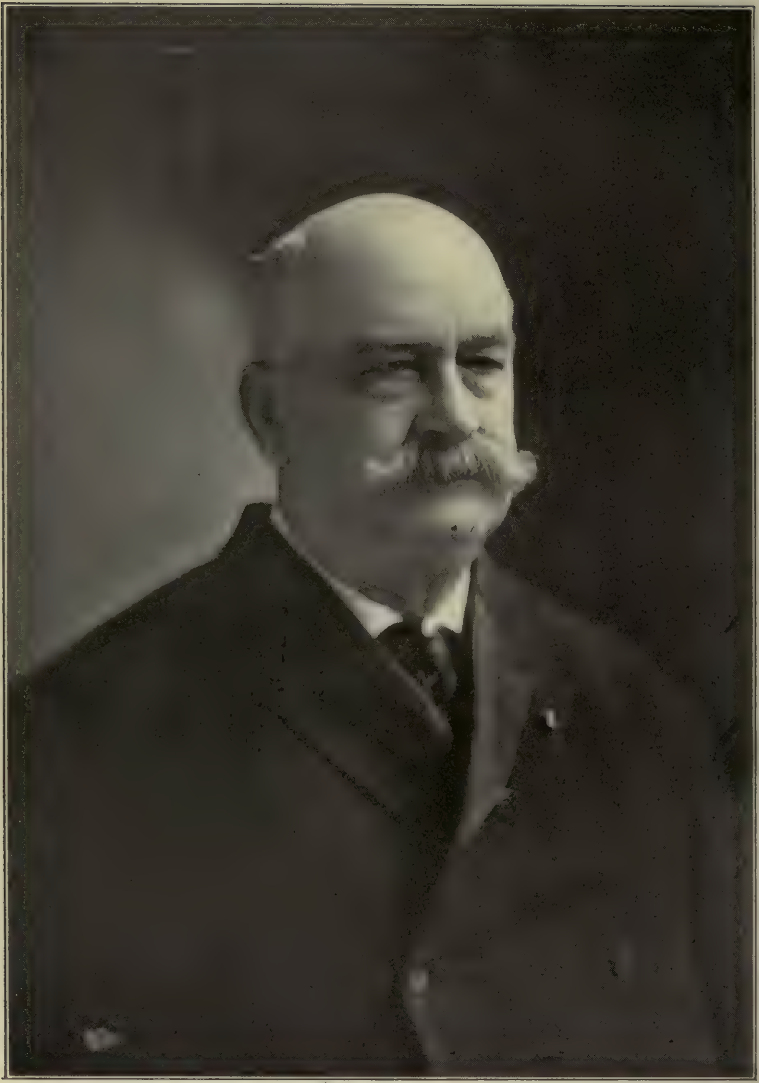

FRANCIS WAYLAND PARKER

Born October 9, 1837 *Died March 2, 1902*

III

FRANCIS WAYLAND PARKER

To write of Colonel Parker's work in such a dispassionate way as to form a lasting estimate of the value of his services to the cause of education in the United States would require a perspective of years, and also a mind free from bias towards or against Colonel Parker's personality. It is not easy even, taking into consideration Colonel Parker's great qualities and his weaknesses, to make a fair, comparative statement of his services from the standpoint of a friend.

Among the multitude of able, self-sacrificing men who have contributed notably to the improvement of elementary schools during the last fifty years it will not be deemed invidious, I trust, to mention the names of Victor M. Rice of New York, Horace Mann of Massachusetts, J. M. Wickersham of Pennsylvania, Newton Bateman of Illinois among the State Superintendents of Public Instruction; William T. Harris, John Hancock, A. J. Rickoff, J. L. Pickard, George Howland, W. B. Powell among the city superintendents, and D. B. Hagar, Edward A. Sheldon, Richard Edwards, Francis W. Parker, Joseph Baldwin among the normal school presidents.

However, an overwhelming majority of teachers familiar with the development of elementary schools, it is believed, would place the names of Horace Mann, Edward A. Sheldon, and Francis W. Parker as indisputably the greatest reformers of this period, and to me Francis W. Parker is incontestably the greatest. Horace Mann, outside of Massachusetts and New England and a section of Ohio, was merely an echo from some other world. Edward A. Sheldon had a wider influence in uplifting primary education in the area reached as well as in the extent of his vast personal influence upon his associates and followers; therefore, while less known to the general public because seldom engaged in controversies, and of a more retiring nature than Horace Mann, his influence was more far-reaching and more potent upon the cause of primary education in the United States. As compared with Mr. Sheldon, Francis W. Parker had the whole of the United States for his theater of action. In addition to the qualities possessed by the two other great reformers just mentioned, he had a fire of enthusiasm; a contempt of criticism; a fearlessness of expression; a gift of prophecy, and a belief in the triumphs of the innovations which he championed which endeared him to the hearts of teachers everywhere. Charges of inconsistency had no terrors for him. Insinuations relative to his lack of scholarship, cynical remarks contrasting his position with that of the confessedly great thinkers of his time, did not affect in the slightest degree his sermons, painting in graphic and exaggerated forms the narrowness and emptiness of prevailing methods in the elementary schools; holding up, like a new Peter the Hermit, a vision of the new life and changes of which he was the prophet. He never hesitated to criticise opposing views, no matter who elucidated them or what the time or place. Every meeting where educators gathered together was to him a forum, an arena, calling upon him to enter the combat.

His life as a teacher may be divided into three periods: that closing with his leaving Manchester; that beginning with his experience at Dayton and ending with his resignation in Boston; and that beginning in Chicago as principal of the Cook County normal school and ending with his death. The first period of his life was characterized by industry, zeal,—often misdirected,—and great fondness for children. The second period of his life, beginning at Dayton, is noteworthy as marking his transition from the position of a grammar-school principal, who is seeking to do the best that can be done in the conduct of his particular school, to the higher plane of relating his thoughts and management to that of the best thought of the great teachers of all time. To other men of his time these thoughts appealed perhaps as strongly as to Colonel Parker, but they lacked the strenuous element, which, always prominent in Colonel Parker, made him put the expression of his best thought into the schoolroom.

He was not deterred from this by his inability to see the outcome of his experiments or because he could not definitely plan out the various stages of growth thru which his pupils would pass, or because he could not answer even in his own mind the objections which were urged against the practicability of doing in the schoolroom what theoretically was the best thing to be done. In the conflict which resulted in Dayton we can see in Colonel Parker the birth of his sweet dogmatism, usually characteristic of the man of action, and at the same time his openmindedness to what came to him from the outside world. It would have been a calamity to the schools of the United States, however, as well as a great hindrance to the development of Colonel Parker, had his triumph in Dayton been so pronounced as to cause him to remain there. His studies in Germany, his acquaintance with the scientific methods of the trained German schoolmasters, gave him the power to clarify his views and also gave him standards by which to gauge the efforts of teachers which made it possible for him to see some things in his profession in a proper perspective.

The story of his coming to Quincy has often been told. Yet in some inscrutable way it has grown to be believed that the schools in Quincy were in a very bad condition at this time. The belief that such was the case among superintendents and boards of education had a pronounced effect at this period in the direction of decrying and discrediting the value of the work done in Quincy during the five years in which Colonel Parker was superintendent. In the report of the very able school committee of Quincy for 1874-75, the year before he was elected superintendent, I find this statement: "At no time within our observation has the average condition of the public schools of this town been so satisfactory." "As regards order and discipline very little fault can be found." "That very much is still to be desired in our system of teaching is too evident for dispute." "That after eight or nine years of constant study in our common schools select pupils should show an amount of acquirement no greater than the examinations for admittance to the high school annually disclose, indicates that there is something lacking to the complete efficiency of the system."

There is no reason to believe, therefore, that the schools of Quincy were any less efficient than those of any other towns and cities either East or West. The next annual report of this committee continues: "The committee had long felt the necessity of a gradual remodeling of our system of teaching. If we wished to keep up with the march of modern improvements in pedagogics it had become essential to introduce important modifications in our method of imparting knowledge." And this bringing up of a whole teaching force in a town to a high plane was the first result of Colonel Parker's work in Quincy.

Coming at a time when the State of Massachusetts was beginning to formally recognize the necessity of skilled supervision of city and town schools the object lesson set forth in Quincy, the challenging of existing methods of teaching and of school management, in the forceful, exaggerated terms presented by Colonel Parker on every opportunity, compelled the opposing forces to draw their lines of demarcation in such a way as presented the issues at stake clearly and definitely before the people. The accessories of an able and progressive and open-minded school committee in Quincy, the development and establishment of a number of ably edited school journals which presented from time to time the salient elements of the controversy, the interest of the newspapers, attracted doubtless by the new features of Colonel Parker's utterances—all these conspired to give a laudable publicity to the experiment in Quincy which every other school reform movement of our times has lacked.

Within an appreciably short time, therefore, the attitude of teachers and school officers toward the discipline in elementary schools changed in the most remarkable manner. The first result of this was the development of a new spirit in the schools, that spirit which our foreign visitors in 1893 thought so wonderful and found so general. Such a condition as is here set forth had an immediate indirect influence upon the teaching in the schools. With the development of freedom in the elementary school came the necessity for better teaching. When rigid military order was no longer possible chaos and disorder immediately appeared, unless the children were interested in their studies. The hearing of lessons, the setting of definite tasks away from and outside of the interest of the children, immediately became very much more difficult, and along the lines of least resistance came a wonderful development of skill among the teachers of the lower grades of the elementary school. The real development of the successful summer school, and the great renaissance of elementary teaching, sprang very largely from this conscious need of teachers to fit themselves for existence in this new atmosphere.

Professional study was, as it were, a necessity, and those teachers who ignored this necessity were soon made conscious of their delinquencies. What might have taken twenty-five years to accomplish was rapidly gained in almost as many months.

Measured from this standpoint, Colonel Parker was incomparably the greatest force for educational good that the elementary schools of this country have ever known. To him more than any other man is due the fact that the schools of the whole country have been decrystallized and imbued with sweeter and higher ideals, and therefore raised to a higher standard of efficiency and accomplishment. He lived to see his views and phases of methods which had been characterized as "theoretical," "visionary," "impracticable," "foreign to our civilization," "tending in the wrong direction," "leading to vast expenditures," "impossible to relate to our common schools," formally accepted by everyone in authority.

One of the most remarkable things connected with the administration of Colonel Parker as superintendent of schools of Quincy is the fact that notwithstanding the immensely bettered condition of the schools, consequent upon lifting the teachers to a higher plane in spirit, skill, and efficiency, the amount of money expended for the support of the schools in Quincy was no greater than that of the years preceding his administration. When one takes into consideration Colonel Parker's well-known weakness and distaste for financial administration, one is at a loss to understand this great achievement at the outset of his career when contrasted with his experience at Chicago. Colonel Parker, during the whole of his life, was a tremendous indirect force acting upon the schools of the country thru the education of teachers under his supervision who were continually drawn upon by school systems in other sections of the country. Great as was his influence at Quincy and in Chicago, tremendous as was the development of the schools under his charge, that growth would have been infinitely greater had it not been so impossible for him to keep any large proportion of the teachers to whom he gave new ideals and greater efficiency. Therefore both in Quincy and Chicago his teaching force was continually changing and shifting—capable and efficient teachers continually accepting better positions elsewhere and leaving their places to be filled by more or less undeveloped teachers.

Nearly all the valid criticisms that have been made against Colonel Parker's administration in Quincy and Chicago have been based upon observation of the work of some of these more or less inexperienced teachers who were in a stage of transition toward better methods.

It was a fortunate thing for the cause of education when Colonel Parker resigned in Boston that he chose the principalship of the Cook County normal school rather than the superintendency of a large city in the East. He was so constituted that he was happier and more efficient in situations where he could see with his own eyes all that was going on than where he would need to operate and direct thru many intermediaries. The West, too, was more ready to listen to the new prophet, more willing to change the point of view, more ready to welcome what seemed to be an improvement than older sections of the country.

Pearson, in his *National life and character,* points out that in England the mental attitude toward any new invention or new process is always, " This cannot amount to anything, or it would have been discovered long ago "; while in the United States and in England's colonies the attitude is, " If this invention is a good thing and this process is valuable, we want it." The West, with few vested rights, with little self-complacency, with less settled society, with fewer recognized great names in education, is not always discriminating in its welcome to new prophets, but it is always open-minded. The time too was ripe for the appearance for a new force. More or less stability had been given to the scattered forces in the schools of the West thru the efforts and influence of John Hancock in Cincinnati; Andrew J. Rickoff in Cleveland; William T. Harris in St. Louis; A. C. Shortridge and George P. Brown in Indianapolis; Richard Edwards and E. C. Hewitt at Normal, Ill., and J. L. Pickard in Chicago.

The impulse towards improved methods and better schools which had emanated from these centers had extended so far thru their ever-broadening circles of influence that a general agreement had been almost reached, and the schools were proceeding in a steady and slow movement upwards. It was at this time that Colonel Parker, with his enthusiasm and beautiful personality, appeared to disturb this general feeling of satisfaction which was fast possessing educators in the West.

The Cook County normal school was then a most excellent school, limited in various ways and provincial in others. Under Colonel Parker's management the standards for admittance were raised; the attendance largely increased, coming from almost every State in the West. The quality of the teaching in the school kept improving constantly in all of the elements which go to make up enthusiastic and scientific teaching. With a school growing largely in numbers, extending its influence so that it became truly national, drawing to its corps of instructors teachers with reputation and ability, it was certain that the cost of such a school would continually increase. Because of this fact and because of Colonel Parker's singleness of purpose to elevate the school he came in contact with both conservative and reactionary forces to such an extent as would have discouraged any man with less hope and less enthusiasm and less strenuousness in his nature; but notwithstanding these troubles which seemed to gather around him, his magnificent personality carried the school in its accomplishments and efficiency higher and higher, until it was the recognized professional school for teachers in the West.

During this period of his career his addresses before county and State teachers' associations, his connection with some of the great summer schools, continually widened and added materially to his increasing reputation. He therefore became really a national character—the one great leader whom teachers in elementary schools recognized as their apostle.

Every movement which has affected for good the efforts of the teachers in our elementary schools in our time certainly gained potency largely from the influence derived from Colonel Parker's life work.

Every pupil in these schools has been given advantages and opportunities, and every teacher has been influenced in her struggle for more light, by the great educational movement for which Colonel Parker will ever seem to stand sponsor. His judgment of men and women who taught with him has been wonderfully borne out by their rise and influence. Indeed the history and development of the new education in the United States might easily be written, from the growth and influence of those teachers now living who have been associated professionally with Colonel Parker.

We in our time shall not see his like again.

FRANK A. FITZPATRICK

BOSTON, MASS.

IV

SCHOOL INSTRUCTION IN THE EFFECTS OF STIMULANTS AND NARCOTICS

Preliminary Report of the Committee of the New York State Science Teachers' Association upon the effects of alcohol and narcotics and upon the instruction regarding them in the public schools.

Irving P. Bishop, Chairman, State Normal School, Buffalo; Burt G. Wilder, Cornell University; Gaylord P. Clarke, Syracuse University; Eli H. Long, University of Buffalo; James E. Peabody, Peter Cooper High School, New York.

I A comparison of text-books used in medical colleges and in the public schools of the State of New York.

II Opinions of the committee regarding the effects of alcohol.

III Opinions of teachers regarding present methods of teaching physiology.

IV Conclusions of the committee from the preceding investigation.

V Recommendations of the committee.

At the meeting of this Association held in New York in 1898 the attention of the Council was called to certain discrepancies between the facts of physiology as taught in the universities and medical schools and those taught in the public schools of the State. As the result of the discussion which followed, a committee of five was appointed " to ascertain and report what is definitely known regarding the effects of alcohol and narcotics on the human body and to recommend suitable methods for teaching the same in the schools of the State." A careful examination of the bibliography of alcohol alone revealed an enormous mass of matter, and a wide difference of statement upon almost every point, even among those best qualified to know. As it was known that the " Committee of Fifty for the Investigation of the Drink Problem," a non-partisan organization, was conducting original researches, your Committee unanimously decided to defer its final report until the material from that source should be available. Recent correspondence with that body shows that the report of the Sub-Committee on the Physiological and Pathological Aspect of the Drink Problem is now ready and that it will be in our hands soon. We present, therefore, certain features of our work which show the progress made to date.

I Comparison of text-books used in medical colleges and in the public schools of the State.

To illustrate the discrepancies referred to in the opening lines of this report, we subjoin parallel quotations taken from text-books used in the medical schools and universities and there considered standard and those in general use in the public schools of the State. With one exception—Hutchinson's—the latter are endorsed by the Women's Christian Temperance Union.[1]

STANDARD TEXTS

"It may, perhaps, be said with safety that in small quantities it (alcohol) is beneficial, or at least not injurious barring the danger of acquiring the alcohol habit, while in large quantities it is directly injurious to various tissues."[2]

"In attempting fairly to estimate the action of stimulants, especially of alcohol, one point is of the utmost importance to remember. It is this—alcohol is a food. If alcoholic stimulants were mere disengagers of static force, early exhaustion would be the rule. But as alcohol is a readily oxidizable form of hydrocarbon, it is also a food as well as a stimulant. In fact it is one of the most easily assimilable forms of food, and very frequently it can be taken and utilized when no other form of food is available. While it is a stimulant, an evoker of force, it also supplies to some extent that force in its readily oxidizable self. The experiments of the late Dr. Anstie and Dr. Dupré have placed beyond all question or honest

SCHOOL TEXTS

"Alcohol is not a food or drink. Medical writers, without exception, class alcohol as a poison.[3]

"Alcohol is universally ranked among poisons by physiologists, chemists, physicians, toxicologists, and all who have experimented, studied, and written upon the subject, and who, therefore, best understand it."[4]

"Alcohol also is a poison. It deprives the bones of some of their food, and leaves, in place of it, a mineral that makes them more brittle."[5]

"As alcohol is a poison, it should not be taken into the stomach. What is a poison? Anything is a poison that harms the body and makes one sick. Alcohol does both."[6]

"Is alcohol a food?

"What do you think about it (question to the class)? Do you doubt the fact of the oxidization of alcohol within the organism. If alcohol is oxidized in the body, then alcohol is a true food, or furnisher of force."[7]

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[1] A part of the following quotations is taken from the advance sheets of the *Report on the present instruction in the physiological action of alcohol*, by the Sub-Committee of the Committee of Fifty for the Investigation of the Drink Problem, Dr. H. P. Bowditch and Professor C. F. Hodge.

[2] Howell, *American text-book of physiology* (Second Edition, 1900), p. 359.

[3] *Eclectic*, No. 3, p. 5–7.

[4] Quoted from Youmans in Blaisdell's No. 2, p. 232.

[5] Hutchinson, *Our wonderful bodies, first book*, p. 24.

[6] Ibid., *First book*, p. 46.

"The question of the propriety of the daily use of alcohol by healthy men is at present a very serious one, involving so many moral and politico-moral issues that it cannot be fully discussed here. Suffice it to state as obvious inferences from our present knowledge of the physiological action of alcohol, that the habitual use of moderate amounts of alcohol does no harm; that to a certain extent it is capable of replacing ordinary food, so that if it be scanty, or even if it be coarse and not easily digested, alcohol, in some form or other, is of great advantage; that in all cases it should be taken well diluted, so as not to irritate the stomach; and that wines or malt liquors are certainly preferable to spirit" (p. 372).

"As Liebig also found that this substance exists in the urine of dogs, horses, and lions, and as A. Rajowski obtained it from healthy rabbits, it must be acknowledged that our present knowledge strongly indicates that it is formed and exists in the normal organism."[8]

think your body would grow and keep well and strong if you used it instead of bread and meat?

"No, indeed. We know that alcohol is not a food."[9]

"It is important for you to remember that alcohol is a narcotic poison."[10]

"This alcohol is a liquid poison. A little of it will harm anyone who drinks it, and much of it would kill the drinker."[11]

"It must be remembered that in whatever quantity, or wherever alcohol is found, its nature is the same. It is not only a poison, but a narcotic poison."[12]

"Alcohol a Poison.

"A poison is any substance whose nature it is, when taken into the body either in small or large quantities, to injure health or destroy life.

"In large doses, in its pure state, or when diluted as in brandy, whisky, rum, or gin, alcohol is often fatal to life. Deaths of men, women, and children from poisonous doses of this drug are common.

"In smaller quantities, or in lighter liquors, beer, wine, and cider, when used as a beverage, it injures the health in proportion to the amount taken."[13]

"If, on the other hand, you take into your stomach a little alcohol, it receives no such welcome. Nature treats it as a poison and seeks to rid herself of the intruder as soon as possible. Every organ of elimination, all the scavengers of the body—the lungs, the kidneys, the perspiration glands—at once set to work to throw off the enemy. The alcohol thus eliminated is entirely unchanged. It cannot, then, be treated as an aliment or food."[14]

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[7] Fothergill, *Practitioner's handbook of treatment* (Eleventh Edition, London, 1897), p. 254.

[8] H. C. Wood, *Therapeutics*, p. 372.

[9] *Health Series*, No. 1, p. 30 ff.

[10] *Eclectic Series*, No. 2, p. 31.

[11] *Pathfinder Series*, No. 1, p. 41.

[12] *Authorized Series*, No. 8, p. 58.

[13] *Dulaney's Series*, No. 2, p. 46 ff.

[14] Steele's *Hygienic physiology*, p. 164 (Edition of 1884).

Conflicting statements like the above could be multiplied far beyond the limits of this report, but enough have been given to show that, in the interpretation of facts, there is a lack of concord which is no longer tolerable.

II Opinions of the committee regarding the effects of alcohol.

In attempting to select from the material at their disposal such facts as might be safely taught, your Committee has endeavored to weigh evidence carefully. When possible it has availed itself of the latest research, placing much confidence in experimental inquiry where it had been carried on with due care and regard for accuracy. That there may be no misunderstanding as to the meaning of terms, the following provisional definitions have been adopted:

Stimulant—" An agent which temporarily quickens some functional or trophic process. It may act directly on the tissue concerned, or may excite the nerves which effect the process, or paralyze the nerves which inhibit it. Stimulants comprise certain medicinal substances, as ammonia, alcohol, and ethylic ether, as well as physical conditions such as warmth, cold, light, or electricity, æsthetic effects, as music and other products of art, and emotions of various kinds, as joy, hope, etc. Stimulants have been divided into general and topical, according as they affect directly or indirectly the whole system or only a particular part."—*The Century dictionary.*

Narcotic—An agent which directly induces sleep, blunts the senses, and in large amounts produces complete insensibility.

Poison—A substance which, when introduced into the body, causes disease or death.

Regarding the influence of quantity in producing toxic effects there is much controversy. One class of physiologists takes the view that alcohol in any quantity is a poison, and the other, while freely admitting that pure alcohol or even strong alcohol, in large doses, may produce poisonous effects, believes that in small or moderate doses it is harmless or positively beneficial.

The former view is exemplified by the following extracts:

"Alcohol is a true narcotic, even in small doses."[15]

"Alcohol is a poison of the narcotic class with a special tendency to act on the brain and nervous system."[16]

"There are no dividing lines on one side of which the poisonous action of alcohol can be seen while on the other it is absent."[16]

"It is a scientific absurdity to assume that alcohol or any other substance is not a poison in small quantities, but it is in large quantities."[17]

This view, however, is not that generally held by physicians and the authors of standard texts, who, with few exceptions, discriminate between the effects of large and small doses. For example, the *American text-book of physiology* says (p. 359): "The effect of alcohol upon the body evidently varies greatly with the quantity used." Indeed it seems probable that the effects of a drug may differ not only in degree, but in kind. Prussic acid is a very deadly poison, and yet nature has put it into fruits which we consume, not only with pleasure, but also with impunity. The same may be said of oxalic acid, citric acid, etc. Even common salt may act as an emetic. Sound, light, heat, and electricity furnish similar illustrations. In the judgment of your Committee the same principle applies in the case of alcohol. While undoubtedly poisonous in concentrated form or in large quantities, it is apparently not so to adults when it is taken in small quantities and sufficiently diluted.

In attempting to decide what facts regarding the use of alcohol and its effects upon the body may be safely taught, your Committee has encountered an array of conflicting evidence which is extremely perplexing. There are very few points upon which there is absolute agreement; in some cases the statements regarding the same topic are diametrically opposed.

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[15] W. S. Hall, *Elementary anatomy, physiology, and hygiene*, 1900. (Indorsed by W. C. T. U.) p. 118.

[16] "Alcohol as a causative factor in disease of the central nervous system," by T. D. Crothers, M. D. Reprint from *Journal of the American Medical Association*, April 9, 1896, p. 2 and 7.

[17] From a letter to the Committee, dated December 18, 1901, signed by the three members of the special committee of the Onondaga Co. Woman's Christian Temperance Union.

In view, also, of the probability that the Report of the Committee of Fifty for the investigation of the drink problem will be published during the coming year, your Committee has decided to postpone until the next meeting of this Association its conclusions as to the action of alcohol upon the various organs.

But in order that there may be no misapprehension as to the convictions of the Committee upon certain practical points of supreme importance, we submit the following opinions and recommendations:

A. All writers agree that an excess of alcohol impairs certain functions of the cerebrum, for example: attention, memory, and self-control, and that many cases of insanity are due to such excess.

B. What constitutes excess will differ with individuals, with occupations, and with other conditions. Upon the present occasion your Committee does not undertake to prescribe the limit of safety for the average adult.

C. The Committee does not consider that the stimulative action of alcohol upon the system as a whole has been demonstrated, nor is it aware that any authority claims that in health or under ordinary circumstances, alcohol is an *economical* food, whether for the production of heat or for the protection of fat or proteid.

D. As a matter of fact, the average man in health and under ordinary circumstances disregards these possible rôles of alcohol and takes it because of its flavor or because he finds it conducive to his personal comfort or to good-fellowship.

E. Your Committee believes that *spirits* should never be used as beverages unless largely diluted, and that alcohol in any form should be taken only at meals and after the work of the day is done.

F. Youths, say under twenty-one, should abstain altogether from alcohol, excepting under specific medical advice.[18]

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[18] The importance of this matter and the natural indisposition of youths to re-

III Opinions of teachers regarding the present methods of teaching physiology:

During the past year there have been conducted three separate inquiries, viz.: (1) by the Chairman of the Committee; (2) by the Chairman in conjunction with F. N. Jewett of the Fredonia (N. Y.) Normal School; (3) by J. E. Peabody as Chairman of the Sub-Committee on Teaching.

(1) For the purpose of ascertaining the present status of

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frain from what is permitted their elders lead the Committee to state the grounds of their recommendation categorically as follows:

1. Most parents prefer that their sons should abstain until of age.
2. Several college presidents have advised their students to abstain.
3. Among those who hold very liberal views as to the use of wine by adults, an experienced physician and an expert investigator of the whole subject, wrote, respectively, as follows: "I exhort all young people in health not to adopt the practice of drinking wine."—Dr. James Jackson. "For youths, say under twenty-five, the proper rule is either no alcohol or very little indeed."—F. E. Anstie.
4. Analogous restrictions based upon age are commonly recognized. The infant takes no solid food; the child retires early; the boy is spared severe labor; the responsibilities of marriage, of society, and of political life are postponed until a certain development of body and mind has been attained. Is it not then prudent for the youth to defer the use of so potent an agent as alcohol at least until his majority is reached?
5. Seldom, if ever, is there at the outset a real liking for the taste of alcoholic beverages; on the contrary, their use is commonly begun in thoughtless imitation of older persons or of foreigners; an unworthy motive for doing anything of doubtful utility.
6. Comparatively few students live at home or take their meals at private clubs. At school and college boarding tables alcoholic beverages are seldom served; consequently they are likely to be used, if at all, at saloons, where the other conditions are more or less undesirable, and with little or no accompanying food. It is universally admitted that both the local and the general effects of alcohol are most pronounced when taken upon an empty stomach.
7. To gain or hold places on athletic teams abstinence is generally required. Even German corps students are beginning to recognize the incompatibility of excessive beer-drinking with proficiency in fencing.
8. The foundations of inebriety are commonly laid early. C. L. Dana found that of 210 inebriates nearly all began to drink before thirty, and about two-thirds before twenty (*Medical record*, July 27, 1901; *Quarterly jour. of inebriety*, October, 1901).
9. Youth is the age of peril; temptations abound without; appetites and passions are foes within; of all periods of life in this should a man be ever "on guard," and protected by the community.
10. Habits are most readily and firmly established in youth. Of all the most valuable is the habit of self-control. "The world belongs to those who can control themselves," but the man who uses alcohol in excess never can do that.

physiology teaching in the State, circular letters of inquiry were mailed by the Chairman of the Committee to 450 teachers, the greater part of whom exercise some supervisory function, and for that reason were supposed to have superior opportunities for knowing actual conditions. Of these circulars 203 were filled out more or less completely and returned.

For convenience, the questions and analysis of answers will be stated together.

Question 1—Do you regard as excessive the time now required by law for the study of physiology?

To this 139, or 68 per cent., answered "yes," and 63, or 31 per cent., answered "no."

Question 2—If excessive, would you change by decreasing subject matter, or by limiting instruction to fewer grades?

Of the 126 answers, 100, or 79 per cent., were in favor of limiting instruction to fewer grades, 5 would decrease subject matter, and 21 would do both.

Question 3—In the latter case, to what grades (school years) would you confine it?

To this 120 answers were received. Of this number 40 would begin work below the 6th year, and 80, or two-thirds, would begin at the 6th grade or above. Of the latter division 34 would begin at the 6th grade, 18 at 7th grade, 18 at 8th grade, 9 at 9th grade, 1 at high school.

There were also some who preferred confining the work to a shorter time than four years. As a rule these were from the teachers who believe in teaching the subject as a science only, and in the higher grades or high school.

Question 4—In which school year should a text-book in physiology be first put into the pupil's hands?

Answers: 1st year, 1; 2d year, 1; 3d year, 4; 4th year, 11; 5th year, 26; 6th year, 35; 7th year, 35; 8th year, 28; 9th year, 6; 8th, 9th, or high school, 7.

The reason given for not wishing to introduce a book earlier than the year chosen was, in 38 instances, immaturity of the pupil; in 6 instances, difficulty of maintaining interest for so many years, and in 4 instances the belief that other work was of more importance. It is worthy of note that 80 per cent.

of those answering preferred to begin the use of text in the grades included between the 4th and 9th.[19]

Question 5—After having studied physiology thru the grades, does the pupil now enter the high school with increased or diminished interest in the subject?

One hundred and twenty-eight, or nearly 63 per cent., replied that the interest was diminished; 35 had noticed increased interest, and 13 more were doubtful. The reasons for diminished interest were not usually assigned. In all cases, weariness of the subject due to repetition was given as the cause; in 3 instances, disgust, and in 9 the fault was laid upon the teacher. One high-school teacher of physiology preferred pupils who had not previously studied the subject to those who had; another said the pupils who studied in the high school alone passed the Regents' examination in the same time and with as high marks as those who had taken the regular physiology work thru the grades before entering the high school.

Question 6—What beneficial results do you observe in your school or community thru the teaching of the effects of stimulants and narcotics.

To this question, 177 answers were given. Of this number 23 expressed doubt, 28 had seen beneficial results, and 120, or 62 per cent., had noticed no effect whatever. The beneficial results were stated to be better habits or a healthy sentiment in favor of abstinence from the use of alcohol or tobacco. One principal said that not a single boy in his high school smoked or used alcoholic drinks. Five more gave a qualified answer, saying the results were beneficial under certain conditions. One was non-committal, but said that the two breweries of his town were still doing business.

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[19] The attitude of the city superintendents towards these questions does not differ widely from that of the whole group of teachers under consideration. That the grammar-school men should favor physiology thruout the whole course to a greater degree than the other groups is a noteworthy fact. It would be interesting to know whether the preference is due to the change which a new subject gives to the routine of grammar-school studies, or whether the principal sees, in his closer relation to the pupils coming from all ranks of life, a greater usefulness in teaching pupils to abstain from tobacco and alcohol.

Question 7—Do you observe any detrimental results from the same cause?

One hundred and thirty-two answered "no" to this question, 13 gave instances where boys had experimented with tobacco or alcohol, either out of curiosity to learn its properties or from a desire to "spite the teacher." It was believed that this action would not have been taken had not the study of the book suggested it. Another reason given by several was that the teaching in school was contrary to the child's own experience. "Many parents of children in my district," writes one ward principal, "drink moderately but regularly, and it is impossible to convince such pupils that the use of alcoholic liquors is harmful." Waste of time, weariness on the part of pupil, disgust, loss of interest, false ideas regarding stimulants and narcotics, formed an aggregate of 18 additional cases where the results were considered bad.

Taken together, the answers to questions 6 and 7 do not show as marked results as might fairly be expected from a study which has been a compulsory part of the education of every school child in the State for five or more years. On the other hand, there is now no means of knowing how far or in what direction the teaching now in progress may affect the future character of the child.

The present system is based upon the idea that if the child knows what is bad for him physically he will avoid it. The evidence shows that this is not always so. A prominent teacher writes: "A cigarette fiend won the last W. C. T. U. prize in our school for an essay showing the effects of tobacco. He still keeps on using cigarettes."

Question 8—What text-book do you use? Is it satisfactory? Why?

To this 113 answered "yes," 26 "fairly," 38 "no," and 18 "not entirely." The feeling expressed was in the main favorable, indicating that the book answered the purpose for which it was designed. "Satisfactory," "As good as the law allows," "Complies with the law," "Meets the Regents' requirements," are answers needing no comment. Some of the juvenile books were severely criticised. "Wishy-washy," "goody-goody," and "nothing in it," were descriptions applied by three out of five teachers using one particular series. Several objected to the treatment of stimulants and narcotics as given in the texts, and others said they could teach the subject better without a book.

Question 9—Do you look favorably or unfavorably upon the use of highly colored pictures illustrating morbid physiological conditions?

The answers to this were "unfavorably," 126; "favorably," 9; favorably with qualifications, 6.

"They give exaggerated and false impressions," "They create morbid tendencies," "Only normal types should be shown to children," "Sensational," "Unpsychological," "Vice is a monster," etc., express the general trend of opinion regarding this means of illustration.

Question 10—What changes, if any, would, in your opinion, improve the present system of teaching physiology?

The changes suggested showed a wide range of opinion. Twelve teachers would leave the questions of quantity of matter and methods of presentation to the teacher, to the local authorities, to the Regents, or to the Superintendent of Public Instruction. Eighteen were in favor of putting the subject on the same basis as other studies. Fifty-two would concentrate the time on fewer grades, making the work oral and hygienic below the sixth year. There was also a tendency in this group to emphasize hygiene and to do less with the topics of stimulants and narcotics.

(2) A joint inquiry was conducted by F. N. Jewett and I. P. Bishop with the physiology classes in the Fredonia and Buffalo Normal Schools to ascertain if possible what the pupils had gained from previous study and what was their attitude toward the subject.[20]

The two classes aggregated 74 pupils all above the age of 17. Their work includes both subject matter and method of teaching.

Question 1—How many have studied physiology thru the grades, or an equivalent amount, under the present State law? Fifty had done so.

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[20] These questions were written out and read to the classes, all possible care being taken to avoid influencing the pupils' answers.

Question 2—How many have ever felt that they were getting too much physiology? None.

Question 3—How many have ever felt that they wanted more of the subject? Fifteen answered "Yes."

Question 4—In how many cases has the interest in physiology been greater than the average interest felt in other subjects? Seven responded.

Question 5—In how many cases has the interest in this subject been less than the average interest felt in other subjects? Thirty-seven responded.

Question 6—How many can trace their aversion to the use of alcoholic drinks, or their disapproval of the same, to the teachings of the physiologies? None responded. (Much merriment in the Buffalo class).

Question 7—How many have ever known of others whose aversion to the use of alcoholic drinks was due to what they had learned of the subject from text-books? One pupil knew of two cases occurring in the 9th grade of a certain school.

Question 8—How many have ever known of the correction of bad habits relative to the use of alcoholic drinks because of what was learned of their nature in school? None.

Question 9—How many have studied this subject where charts were used showing abnormal conditions of the organs? Twenty-two had.

Question 10—In how many cases did the charts help to render the subject impressive? Two.

Question 11—Why did the charts fail so largely to impress the subject matter? One said it was because some of the charts were not true, that their untruthfulness was recognized at the time. Another said that the children, inclusive of herself, were too young to understand the charts. A third said the charts were disgusting.

(3) A third set of questions was sent out by J. E. Peabody to the physiology teachers in the high schools of the cities and larger towns of New York and New England. Copies of the paper were also sent to college and medical school professors and to prominent members of the Committee of Fifty. The circular was as follows:

1. The present State law prescribes that "the nature of alcoholic drinks and other narcotics and their effects on the human system shall be taught in connection with the various divisions of physiology and hygiene as thoroly as are other branches in all schools under State control, or supported wholly or in part by public money of the State. All pupils . . . below the second year of the high school and above the third year of school work . . . shall be taught and shall study this subject every year with suitable text-books in the hands of all pupils for not less than three lessons a week for ten or more weeks . . . For all students below high-school grade such text-books shall give at least one-fifth of their space, and for students of high school grade shall not give less than twenty pages, to the nature and effects of alcoholic drinks and other narcotics. This subject must be treated in the text-books in connection with the various divisions of physiology and hygiene, and pages on this subject in a separate chapter at the end of the book shall not be counted in determining the minimum."

Is it desirable to advocate any change in this State law? If so, what change should be made?

2. Should we emphasize, in teaching pupils, the difference between the effects of moderate and excessive use of alcohol?

3. If this distinction is made, shall we call the attention of boys and girls to descriptions of *delirium tremens*, hob-nailed livers, etc.?

4. Authorities differ widely in respect to the effects of the *moderate* use of alcohol. Many of the most eminent physiologists claim that moderate use of alcohol is not injurious. In view of these facts, should pupils ever be taught that alcohol is always a poison?

5. Professor Atwater's experiments seem to prove conclusively that alcohol in small quantity can be used like sugar, starch, and fat for generating heat and muscular energy. Is it wise to describe these experiments to classes? (See Atwater's articles in *Harper's monthly*, October and November, 1900; *Outlook*, vols. lxii. and lxiii. 1899.)

6. Statistics from the U. S. Census in regard to pauperism, crime, insanity, and the cost of drunkenness are telling arguments against the present use (or abuse) of liquors in this country. Should these statistics be given in a course in physiology?

7. The rules of most corporations prohibit the use of intoxicants. Is it well to present to pupils this business argument for abstinence?

8. Please suggest the authorities that give the fairest view of the effects on the human body of alcohol and narcotics.

9. Shall we emphasize in teaching the difference in the effect of tobacco when used by youths and adults?

10. What is the best form of our report—a series of categorical statements or a succession of quotations from authorities?

Nearly one hundred replies were received and the answers therein contained were tabulated.

In reply to question 1, relative to the State requirements concerning so-called "scientific temperance instruction," only four expressed themselves as satisfied with the present law. Two others are in doubt as to the effect of the statute. All the rest condemn it either in part or *in toto*. The various grounds of dissatisfaction may be stated as follows:

1. Too much time in the curriculum is assigned to the subject of alcohol and other narcotics. Many suggest that its consideration be omitted in several of the grades, stating that the wearisome repetition required by law leads either to indifference on the part of the pupil or to actual hostility toward the subject.

2. The pressure brought to bear upon text-book writers, because of the law, makes most text-books unbalanced in their proportions, if not, as is often the case, actually untruthful in their statements.

3. The statute fails to accomplish what it was destined to accomplish, namely, the growth of an intelligent sentiment against the evils of intemperance. Teachers declare that the teaching of physiology and hygiene, which ought to be of great help in the everyday life of the pupil, is becoming synonymous with teaching the effects of alcohol and narcotics; indeed in some schools the text-books in the subject are called by the pupils " the liquor books."

After tabulating the answers to question 2 on the circulars returned, we find that the distinction between the effects of moderate and excessive use would be emphasized by three-fourths of the writers. About two-thirds of the papers say that the extreme effects of liquor in cases of *delirium tremens* and pathological livers should not be portrayed in a course in physiology given to boys and girls. Only one-third, on the other hand, recommend the presentation of Professor Atwater's recent important experiments on alcohol as a possible source of energy. In answer to the question " Should pupils ever be taught that alcohol is always a poison? " four-fifths of the papers register a decided " No."

Turning now from the physiological aspect of the question to its moral and economic bearings, we find substantial agreement that perhaps the best arguments against intemperance are those furnished by the statistics of pauperism, crime, and insanity. Nearly all agree, too, that the business argument in favor of abstinence or strict temperance should be advanced, but several of the writers protest against introducing either of the arguments just named into a course in physiology and hygiene.

As already stated, your sub-committee has devoted most of its attention to the consideration of the alcohol question as affecting the high-school course. This was deemed advisable in view of the limitations of time. We believe, however, that the proper study of physiology in the elementary grades is of even greater importance, because of the practical teachings of hygiene that may be thus widely diffused. In this connection we are permitted to quote the following statement, which will soon be published by a joint committee of the Teachers' Association and Male Principals' Association of New York City. This committee was appointed to recommend changes in the present New York City course of study.

> The Committee deplore especially the unwise and burdensome teaching of physiology foisted upon our curriculum by an arbitrary State law. We earnestly recommend that the teachers' associations, and school authorities of the city initiate some movement looking toward a more rational use of the time that is now devoted to so-called "temperance physiology." This teaching is intended to give children an abhorrence of alcoholic drinks; but, by the unpedagogic methods it employs, it succeeds only in cultivating in children an abhorrence of the beautiful and useful science of physiology.

IV Conclusions of the Committee from the preceding investigations.

1. Physiology is the only subject in the curriculum that is dominated by legislative enactment. The result seems to be that instruction is commonly given in a perfunctory way, or that the provisions of the law regarding temperance instruction are disregarded. It should be remembered that no law, however stringent, can bring about effective teaching when the statements presented to the pupils are questioned or disbelieved by the teacher.[21]

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[21] While we recognize the importance of legislation relating to the subject and acknowledge the great service which the members of the Woman's Christian Tem-

2. The teaching of the effects of stimulants and narcotics under the present system has not produced any marked change of sentiment in the young either for or against their use. If any change exists, it is entirely disproportionate to the outlay of time and effort which has been made.

3. Whether the matter taught is or is not excessive in amount, it is unwisely distributed thru the course, and there is frequent and unnecessary repetition.

4. As the result, diminished interest and dislike of the subject prevail.

5. The preponderance of opinion expressed indicates that instruction could profitably be limited to fewer grades; those between the 5th and 8th being preferred.

6. The use of text-books should not be made compulsory earlier than the 6th grade, if at all.

7. Altho the text-book may not always be satisfactory, the teachers do not regard this fact as a marked impediment to their work.

8. Charts showing morbid physiological conditions are generally condemned.

9. The evils of alcohol and narcotics can be presented most effectively from the moral and economic point of view.

V Recommendations of the Committee.

1. The New York State Science Teachers' Association should urge that the present law be modified in such a way that teachers of physiology be given more freedom to decide as to the character and content of their teaching, and writers of text-books more freedom as to the space devoted to the subject and its location in the volume.

2. We are interested in the recent changes effected in the law in the State of Connecticut, and look with favor upon its present provisions. But before recommending similar specific changes in our law we deem it wise to allow a reasonable time to elapse for observation of the working and results of that law.

perance Union have rendered in the cause of temperance instruction, your Committee is of the opinion that our present law could be amended so as to be more acceptable to practical educators and to promise more satisfactory results.

3. So long as the existing statute remains in force, if truthful instruction is to be given in the subject, the possible benefits of alcohol when prescribed by physicians should be conceded. The difference in the effects on the human body of fermented beverages (beer and light wines) and distilled liquors should also be noted. Emphasis should be laid, too, on the greater susceptibility of young persons both to direct injury from the use of alcohol in any form and to the danger of forming undesirable habits. Pupils should be allowed also to know that there is wide disagreement among authorities as to the physiological effects of a strictly moderate use of liquors by adults. On the other hand, attention should be called to the fact that the moderate use of alcohol very commonly leads to excess, and the teacher should emphasize the fact that an immoderate use of liquors weakens the tissues so that they are made more susceptible to disease.

4. Finally, if the teacher wishes to present the strongest arguments in favor of either total abstinence or strict temperance, and thereby fulfill the spirit rather than the letter of the law, your Committee recommends that comparatively little time be spent in trying to teach the physiological effects of alcohol and tobacco. Let us frankly admit that we are discussing not so much a question of physiology as one of morals and economics, and let us devote the larger part of the time required by law to a treatment of the question from the moral and economic standpoint.

V

THE ABOLITION OF COMPULSORY GREEK IN GERMANY

A sweeping change has just been effected in the school system of Germany. With the commencement, at Easter, of the new scholastic year the classical Gymnasia of Prussia have practically been remodeled. The alteration is of such surpassing moment that the educationists of the future will certainly consider it to stamp the beginning of the century as a turning-point in the history of German education.

The first intimation of the approaching change was contained in the now famous Kiel decree. The object of this order was stated in the title to be the continuation of the reform of the higher schools in Prussia. It was signed by the Emperor personally, and was published in the last days of the year 1900 in the official organ of the Ministry of Education. The most important passage ran as follows: "I have no objection to raise to a suitable strengthening of Latin in the time-tables of the Gymnasia and Realgymnasia, but, in view of the great value of a knowledge of English, I attach especial importance to a closer consideration of this subject in the Gymnasia. For this reason the introduction of an English course as an alternative for Greek is to be permitted everywhere up to the class II B."[1]

The last sentence quoted is the pregnant one. But it formed less than two lines of a fairly long decree, which was issued amongst a number of other official documents, and in this way there was every likelihood of its significance being overlooked by the general public. Afterwards, however, when this, with other less important provisions of the Kiel decree, was incorporated in the new Prussian curriculums which come into force in the present year and supplant the well-known programs of 1892, the innovation immediately attracted universal attention, and while the change was actually impending it was minutely discussed in all its bearings.

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[1] The nine classes of a German Gymnasium are best regarded as consisting of three upper classes: I A, I B, II A; three middle: II B, III A, III B, and three lower: IV, V, VI.

The curriculums naturally enter more particularly into the details of the arrangement, and it is surprising to find, on closer examination, that the alternative course has much less of an English character than was to be expected from the terms of the decree. Instead of having the Greek lessons replaced by an equal number of lessons in English, only half the time is to be applied to the modern language.

But what really justifies the application of the term English to the new course is the fact that it implies a complete reversal of the position hitherto occupied by the subject in the gymnasial time-table. Up to the present year English formed no part of the regular course of a Gymnasium. It is true that every such school offered its pupils the opportunity of learning the language, by giving two lessons a week to any boys in the three higher classes who specially desired to take it up. But no students were compelled to attend; indeed, the pressure of their other work was sufficient to prevent most of them from joining extra classes. Now, however, all has been changed and this neglect is a thing of the past. Instead of being taught out of regular school hours to a few exceptional pupils, English has been made an essential part of a course, which, if still only optional, is at least compulsory for all who desire to avoid Greek.

But while the new rule is of deep interest as far as it affects English, the change in the attitude of the Prussian authorities towards Greek constitutes nothing short of a revolution in German education. For Germany has been the stronghold of classicism more than any other country. Even now the graduate of the classical schools can study in all faculties at the university, and until last year the professions of law, medicine, and the Church were open to him alone. There are in Prussia exactly 400 secondary schools with the full nine-years' course, and of these as many as 289 are classical Gymnasia in which Greek has hitherto been a compulsory subject. In other words, until this Easter, Greek had to be studied by every pupil in nearly three-quarters of all the schools in Prussia which have the right to send pupils up to the universities. The figures obtained by including the secondary schools with a six-years' course, the successful completion of which is rewarded by the right to one year of military service as a volunteer instead of two as an ordinary recruit, illustrate well, but much less strikingly than the last, the rank recently held by Greek. Out of the total number of 603 higher schools in Prussia Greek was compulsory in 346 Gymnasia and Progymnasia. There is an enormous difference between the standing of Greek as represented by these proportions and the position assigned to it from the commencement of the summer term of 1902, after which there will no longer be a single school in the kingdom in which the language will be obligatory. It is a remarkable proof of the centralization of Prussian education, and of the thoroness of its organization, that such a sweeping change could be brought into force at a single step without exciting a storm of indignant protest from zealous humanists.

Now, not only was Greek studied in a very large proportion of Prussian higher schools, but it claimed a considerable share of the pupils' time. In this connection it is as well to observe at once that the time-table of a Progymnasium, which is practically a Gymnasium lacking the highest three classes, corresponds in all respects to the time-table for the remaining classes of the Gymnasium, so that all remarks about the middle and lower classes of the Gymnasium apply to the Progymnasium with only a trifling change of terms. Greek is begun by a gymnasial pupil in the fourth school year, on joining the lowest of the three middle classes. In these and also in the three upper classes,—that is, to the end of his school course,—he devotes six hours a week to the subject. By the new regulations he, or his parents for him, must decide once for all, at the beginning of his fourth year at school, whether he is to take Greek or to devote these six hours a week to the subjects of the alternative modern course. If he decides for the latter the six hours will be distributed as follows: in the classes III B and III A, three hours English, two French, and one mathematics;

and in II B, three hours English, one French, and two mathematics and natural and experimental science.

Thus, in the official curriculums, provision is made for the alternative course only in these three classes, and no reference whatever is made to any similar arrangement for the higher grades. The inference is a tempting one, that the government has no intention of introducing the alternative course in the upper division. Now if this were for a moment regarded as a fact, the drawback would immediately suggest itself to the mind that no opportunity of continuing their studies is offered to those who have taken the modern course up to II B; such pupils would be debarred from further study at their Gymnasium because the alternative course did not exist in II A and the higher classes. As a matter of fact the authorities have obviated this difficulty by ruling that a pupil who has successfully studied the modern course as far as II B can join the class II A in a Realgymnasium without having to pass the usual test at entrance. In this way the individual interests of a pupil are to some extent safeguarded. But in practice the expedient would prove a failure; in the first place, because it would entail an overcrowding of the upper classes of the Realgymnasia for which these institutions are quite unprepared, and, in the second place, because the gymnasial pupil, on changing over to his new school, would certainly find himself much further behind his class-fellows in mathematics than he was in advance of them in Latin. In neither subject would his attainments stand in the proper relation to his work, and his progress in both would be hindered. Seeing that the privileges which he would gain by completing either the regular course at a Realgymnasium or the modern course at a Gymnasium do not differ in the slightest, it would be far more to his advantage to enter a Realgymnasium in the first instance, and avoid the check to his progress which must inevitably accompany a transference from one school to another of a contrasted type.

We are now confronted by the difficulty which lay at the root of the change. This was the problem of adjusting the balance between the Gymnasia and Realgymnasia. Within the last twelve months the latter have made enormous strides in respect of privileges, and the system of privileges interpenetrates German education to the core. Hardly a year ago the medical profession, previously closed to the graduates of all schools but Gymnasia, was thrown open to students who had no knowledge of Greek; and it was only so recently as the beginning of this year that a minister announced in the Imperial Diet that an acquaintance with Greek would no longer be regarded by the Prussian government as requisite for admission to the study of law. It was inevitable that such a sudden and great extension of privileges, which had long been jealously confined to the humanistic schools, should bring in its train a disturbance in the equilibrium of the whole Prussian school system which could only be controlled by a measure equally drastic.

Thus the pursuit of two great professions was thrown open with startling suddenness to graduates of the Realgymnasium, and it was brought into direct competition with the Gymnasium. The Oberrealschule did not enter the lists, its position with regard to privileges was not affected, for Latin, which it does not teach, was still indispensable for admission to the faculties of law and medicine. But the choice between the other two schools was presented to all parents who wished to see their sons lawyers or doctors; and it is certain, had steps not been taken to anticipate the danger, that many parents would have decided to send their sons to a Realgymnasium rather than expose them to the risk, which the difficulty of the study of Greek entailed, of failing to complete the school course and so of not securing the leaving-certificate on which their success in life depended. The possibility of avoiding a difficult study would, at the beginning of every school year, have brought more and more recruits to the Realgymnasia, and would have resulted in an access of pupils to these schools with which they would have been quite unable to grapple. The higher schools of Prussia are already full to overcrowding; in the large towns vacancies are sought after with avidity, and in such circumstances it is easy to understand that the relatively small number of Realgymnasia in Prussia—75 as against 289 Gymnasia—would be quite unable to accommodate even a minute fraction of the pupils who, under the old conditions, would have joined the gymnasial schools. The government was then brought face to face with the necessity of remodeling the Gymnasia, if a redistribution of pupils among the higher schools was to be avoided, and the expedient was adapted of offering the pupils of the Gymnasia the alternative of a modern course without Greek.

Thus the reform of the Gymnasia was forced upon the government as the only means of maintaining the continuity of the German educational system. It was impossible to confine the legal and medical professions to Greek students long after all other nations had abandoned a similar monopoly, and gymnasial schools had to share with others the privileges which had so long been their exclusive property. But they have not been deprived of special advantages to which they have a just claim. Only thru them can an entrance to the clerical profession, or the right to continue the study of classics at the universities, be secured. The future students of classics and theology are consequently the special pupils of the Gymnasium, and, were they sufficiently numerous, it would have been possible to have retained compulsory Greek. But the theological faculty is, on an average, the smallest of the four German university faculties, and classical professorships and masterships fall vacant too seldom to induce many to undertake advanced study in the subject. As a consequence, intending theologians and classical students form a very small fraction of the present pupils of German Gymnasia. So small is the proposition that it would have been out of the question to retain compulsory Greek in the 289 Gymnasia of Prussia and so confine nearly three-quarters of all Prussian schools which lead to the universities to the task of preparing a class of students which constitutes less than one-fourth of the total number of undergraduates.

But if the Gymnasia could not be maintained for theologians and classical teachers alone, neither could new schools be built for those who did not want Greek, nor would it have been advisable for the government to consent to the transformation of Gymnasia into Realgymnasia even with the proviso that this could only take place where local circumstances warranted the change. The early humanistic teachers in Germany modified the original meaning of the word "gymnasium," and, thinking of the mind rather than the body, applied it to their schools, in which a study of Greek was considered essential to the culture of the mind. Opponents of the new change have not forgotten the signification which the word bore when it was adopted for German schools, and assert that the designation Gymnasium has lost its justification now that Greek is no longer compulsory. Without modification this statement is mere hairsplitting, but, without going quite to the same lengths, it may readily be acknowledged that a school in which Greek formed no part of the instruction would have forfeited its claim to the title. But, as the new arrangement actually stands, the retention of the term is fully justified, for the Greek course still remains the typical one, and to it the English course is quite subordinate. The gradual conversion of Gymnasia into Realgymnasia where the latter type of school is preferred, if the plan had been approved by the authorities, would have deprived the minority in a locality which did not possess a second Gymnasium of their chance of learning Greek. To avoid this manifest unfairness, the Minister of Education and his colleagues adopted the guiding principle that all who desire to learn Greek must have the opportunity, and, contradiction as it may appear at first glance, acted on it in deciding on the abolition of compulsory Greek. They decided on a general reform of the gymnasial program in preference to a wholesale transformation of a considerable number of Gymnasia into purely realistic schools.

And, in fact, reform of the Gymnasia was inevitable. They no longer answered the requirements of modern life. The humanistic view, that the school has not only to develop the intelligence, but to habituate the mind to logical thought and to confer a high degree of culture, is incontestably correct. But while the duty of training for special callings ought not to fall to the school,—the later technical schools exist for that purpose,—it must undeniably train for life, and what is more, for the life of the present, not of the past. The Gymnasia have not fulfilled this function and do not lay the foundation of a modern education; for, adhering to their old constitution, they have stood still amongst the general onward march. Yet much as they have lagged behind, it would have been possible to have resisted even longer; but the economical pressure, which in modern times so rapidly punishes any failure to keep pace with the progress of the age, would ultimately have enforced submission to some measure of reform.

The Gymnasia of Germany have rendered splendid services to their country, but the needs of the nation have altered, and the schools must change too, if they are to satisfy the demands made upon them by the state. The Emperor expressed this well when he declared, in a famous speech on education, that the foundation of the Gymnasia must be German and not classical, and that they must educate their pupils to become Germans, not young Greeks and Romans. This tendency to Germanize the schools decides the direction which the future development of the Gymnasia will take. It is possible that the next step will be to confine the teaching of Greek to the three upper classes and to abolish it altogether in the middle gymnasial classes. This plan would enable intending divinity students to acquire a sufficient knowledge of Greek before entering the university. For, if they can learn Hebrew, an acquaintance with which is required of all intending students of theology, in three years with two lessons a week, they should certainly, with six lessons a week, attain a high degree of proficiency in Greek in the same length of time. Whether this amount of Greek would be sufficient for the slightly larger group of classical students admits of doubt, but it must be notice that in the Reformgymnasia both classes of students have succeeded, with eight hours a week in only the last four years of school life, in reaching the standard attained by pupils of other Gymnasia with a daily lesson for the final six years. The success which has attended the plan of teaching Greek only in the highest four classes may ultimately lead to its adoption in the typical gymnasial time-table.

But such changes are probably still far in the future. In Germany changes in the educational system are very gradually effected, and, even when once decided upon, come into operation very slowly. The remarkable innovation of this Easter was introduced with comparative suddenness, but six years must elapse before it will have extended itself thru all grades of the schools which take advantage of it. For the measure is in no wise retrospective. No pupil who has already begun Greek will be allowed to drop it and take the English alternative course instead. The instruction in each grade presupposes a similar course in the preceding class, and accordingly every new arrangement in German schools is at first established only in the lowest grade to which it is applicable and every year embraces one class more, until, simultaneously with the first pupils affected by it, it reaches the top of the school. Consequently the new course could this Easter be introduced only in III B, and only pupils who were in IV at the beginning of the year benefit by the change.

It is remarkable that the decision as to whether the change should be introduced without delay in any particular school was virtually left to the parents of such pupils. For the directors of Gymnasia were debarred from adopting the new scheme without having first secured the consent of the Provincial School Commission, and being for the most part strong partisans of classicism they would very probably have taken no steps to obtain the necessary permission, had not pressure been exerted by parents whose interests were directly involved. It is true that consent, if applied for, had to be given, for the decree ordered that the new course should be introduced *everywhere,* and in the new programs the School Commissioners are expressly requested to see that the provisions of the decree receive the fullest attention; still the burden of taking action was none the less thrown upon the parents concerned. Headmasters would certainly not let their schools incur the expense of paying for six extra lessons weekly, unless they knew that the step was in harmony with the wishes of parents, and that a certain number of pupils would attend the new course.

The first attempt to learn the views of parents was made in several large Gymnasia by addressing the pupils of class IV, whose interests where chiefly concerned, on the subject of the change and on the next day counting all whose parents were in favor of the new course. This rough method revealed that more than half would take the alternative lessons instead of Greek, and it is not unlikely that the proportion for the whole of Prussia will prove to have been nearly as high. If the number of pupils commencing Greek in this and the following years be reduced to this extent as compared with its former value, then in six years, by which time all classes will have been affected, the number of pupils learning Greek in German schools will actually have been halved.

Looking forward to such a result with anything but pleasure, the humanistic opponents of the scheme have seized on the weakness of throwing the initiative on the parents, who, if they have not themselves had the advantage of a gymnasial education, are quite incapable of appreciating the value of what they reject. Parents, it is asserted, are in any case too prone to judge a school by the privileges attached to the completion of its course and by the money value of the education it confers, and for this very reason should not be consulted on the question of Greek. But in reality the wishes of parents are ascertained only to avoid a monetary loss; they have absolutely no decisive influence. The retention of compulsory Greek became an impossibility from the moment the government reformed the conditions of entrance to the medical and legal professions, and had an attempt been made to enforce it, the outcome could only have been the ruin of the Gymnasia.

That many parents, far from appreciating the beauty of Greek, felt a genuine dislike to the subject, is as undeniable as it is easily explicable. The high standard in Greek renders it the stumbling-block in the gymnasial course, and no father, with his heart set on his son's winning the leaving-certificate, could be blamed for disliking the subject which more than all others imperiled the boy's prospects. This repugnance will certainly be intensified under the new conditions by the reintroduction into the program for the higher classes of the written translations into Greek, which had not been required by the curriculums of 1892. This increase in the difficulty of Greek will certainly induce a still larger number of pupils to neglect the language, now that its study has been made optional.

Were English in reality intended to form a substitute for Greek, the standard or proficiency should be fixed as high, and a similar dislike of the modern language would make itself felt. In Greek, authors belonging to widely separated periods are studied and the Greek philosophers are carefully read, and were as varied a course prescribed in English, the gymnasial student would certainly not find it easier to surmount the difficulties of Chaucer and Shakspere, Locke and Spencer.

But the best proof that the framers of the new programs never regarded English in the light of a substitute for Greek is found in the fact that only half the number of lessons are assigned to it. A modern language can never wholly replace a classical one as a means of culture, for no excellence can compensate for the lack of the atmosphere of antiquity, which pervades every phrase of the ancient tongue and forms so powerful an influence in widening the intellectual horizon.

However, a grammatical knowledge of the language is, fortunately, not altogether indispensable for the enjoyment of a Greek atmosphere. Even past pupils of the Gymnasia who have studied Homer sentence by sentence, analyzing each simile and metaphor, admit that the foundation of their love for the ancient Greeks was not laid in such instruction, but long before in the German lessons of the lower classes, when they first became familiar with the legends and heroes of early Greece and as yet knew not a single word of the language. The combination of complete ignorance of Greek with a genuine understanding of the mythology and artistic development of the Greeks, and of the influence exerted by their culture down to our own time, is readily conceivable, if only certain qualities of intellect and taste be postulated.

Greek culture, then, need not be wholly lost to students of the modern course. It can be acquired thru German. This view has always been a leading principle of the Prussian curricula. For instance, in the realistic schools, to make some amends for the total lack of instruction in Greek, the middle classes are made to read Homer, and the upper classes Greek dramas, in good translations as part of the regular work in German. Similarly, German versions of Shakspere's plays have hitherto been included in the course of German reading officially prescribed for the three upper classes of the Gymnasia, in which English was typically, and indeed practically, not taught. In the interests of students of Greek no change has been made in this arrangement, even now that English forms part of a regular gymnasial course. In like manner, when the next Prussian curricula are published, by which time the alternative course will have become an integral part of the German educational system, pupils who take it up will certainly be made read good German translations of the Greek classics, with which they cannot otherwise become acquainted.

While there can be no second question about the great advantages of studying Greek literature in the original, yet it happens only too frequently that they are overrated. It is undoubtedly an exaggeration to assert that every cultured German must possess a knowledge of Greek, on the ground that, without it, works like Lessing's *Laokoön* and the writings of Winkelmann, Hamann, and Herder cannot be fully appreciated. The exactly opposite view, that ignorance of Greek is no insurmountable bar to a thoro understanding of even those portions of the national literature which deal with classical themes, is certainly strongly countenanced by the fact that Goethe and Schiller possessed only a very slender acquaintance with the language. Schiller, as a matter of fact, made use of a French version in preparing his translations of Euripides' *Phœnissæ* and *Iphigenia in Aulis,* and consulted the original only here and there, to save appearances. If, then, the study of Greek had such a small share in the composition of works in which classical influence was so dominant, it is certainly not necessary for an intelligent perusal of them and a keen enjoyment of their beauties.

Thus Greek is no longer regarded as an indispensable element in a liberal education. It has been finally ousted from the position which it had held so long and so firmly that Germany has for the past century outrivaled all other countries in fostering classical culture. But no state could, long after all others had yielded, persist in enforcing an unpractical study in face of the pressing necessities of modern life, and the inevitable submission has come all the more suddenly for having been so long withheld. The struggle might have been maintained even longer at an ever increasing cost, but the ultimate issue must have been the same, that is, the abolition of compulsory Greek in the only country in which it survived to the beginning of the twentieth century.

C. E. WRIGHT

HANOVER, GERMANY

VI

BIBLIOGRAPHY OF EDUCATION FOR 1901

Compiled by James Ingersoll Wyer, Jr., Librarian of the University of Nebraska, and Isabel Ely Lord, Librarian of Bryn Mawr College

INTRODUCTION

This bibliography, which is the third similar annual summary of educational literature, is planned to include:

a. Books on educational subjects printed in English and bearing the imprint date 1901.
b. Important articles on the same subject from the periodicals of 1901.
c. Valuable papers published in the transactions of educational societies which bear the imprint date 1901.
d. All chapters of distinct educational interest from any books bearing date 1901, and all notable matter on educational topics published during 1901, wherever found.

It does not include:

a. Purely local current literature of separate institutions, provinces, colonies, or states, For all such material the student is referred to reports of state departments and of the thousands of educational institutions in this country, in Great Britain, and in the colonies.
b. Unimportant matter, such as is being constantly published in journals.
c. Text-books.

The distinctive features of the compilation are:

a. The careful analysis of all important periodicals.
b. The liberal annotation.
c. The classification by subject matter so that the worker in any line may find together the literature of interest to him. The decimal classification has, with a few deviations, been followed, both as being on the whole the most satisfactory in use and as being very widely used by libraries.

A detailed outline of the classification precedes the bibliography, and is so full as to serve readily as a subject index. An author index of names is appended.

There has been published during 1901 no single pre-eminent piece of educational literature equal in value to the two volumes of Paris exposition monographs of last year. Besides the dozen relatively more important volumes named in the next paragraph, attention should be called to a few noteworthy short articles which have attracted some discussion and attention. The addresses of Dr. G. Stanley Hall and of Dr. Harris, which are fully described under proper subjects in the body of the bibliography (No. 11 and No. 12), are generally conceded to be the most thoughtful papers read at the N. E. A. meeting in Detroit. The detailed report of the College entrance examination board deserves careful study as the record of an important experiment in economy of effort and one that seems to promise success. The subject of the Curriculum, including Elective studies ; Overcrowding, and particularly Methods in special branches, attracts by far the largest number of writers, as will be seen by examining section 375 and its sub-sections. The insistent militant attitude of some of the zealous propagandists is but thinly disguised by the plausible arguments of the briefs for their special subjects. The methodology of English has received more attention this year than that of any other one branch, but despite the number of contributions and the excellence of some of them, there is yet no satisfactory manual on the subject.

There is produced annually on educational topics an enormous amount of literature that is repetitious, dull, unimportant, or palpably made-to-order. It is obviously often distinctly useful to repeat and reprint such matter in local journals or meetings, but it hardly deserves a place in this bibliography, where the very difficult task is attempted of noting only what seems really worth while.

After the list for 1900 was printed in the EDUCATIONAL REVIEW for April, 1901, a number of inquiries were received asking which books out of the 481 titles listed were of most importance; which books should be bought by every library ; which books should be read by, or at any rate accurately known to, every teacher and all serious students of education. In reply Dr. Butler skimmed off the cream from the year's educational output, and in an editorial in the May number indicated ten such books.

Repeating the editor's warning that any such list is at best but a personal judgment, the compilers of this bibliography submit the following titles chosen from the books of 1901. Full titles, publisher, price, and annotation may be found, thru the index, in the body of the work, where each one is entered with other titles on the same subject.

1 Forbush—The boy problem.
2 Young—Isolation in the school.

3 Payne—Education of teachers.
4 White—Art of teaching.
5 Collar and Crook—School management.

6 Bennett and Bristol—Teaching of Latin and Greek.
7 Redway—New basis of geography.
8 Hooper and Graham—Commercial geography.

9 Shaw—School hygiene.
10 Sheldon—Student life and customs.

11 Monroe—Source book of the history of education.
12 Mark—Individuality and the moral aim in American education.

The order of titles is not accidental. The first two books deal with fundamental matters ; they relate to the nature and principles of education. The keynote of the first is practical education intimately related to society. It smacks of child-study, but the psychology is not obtrusive. Miss Young's monograph is a thoughtful study, not of the nature of the child, but of the nature of the school. She shows how it may be unified in all departments into a more effective engine, and why and how it should be in close touch with the home.

The next three titles form an allied group. Mr. Payne speaks of what may be called the non-professional preparation of teachers, while Mr. White has given us a conservative volume on the principles and practices of actual teaching. "School management," by Collar and Crook—after four brief chapters on School and home, Buildings and equipment, Organization and Discipline—is entirely devoted to methods of instruction, with special reference to English elementary schools.

Numbers 6, 7, and 8 are three excellent books on the teaching of special subjects. The volume by Bennett and Bristol bears eloquent testimony to the persistent vitality of the classics in the curriculum, while the two following titles plainly reflect the spirit of world empire, founded on commercialism, which is now so strong an influence.

The merit of Mr. Shaw's *School hygiene* can be appreciated best by comparing it carefully with other English books on the subject. All together they do not tip the scale in which the new book lies. In *Student life and customs* Mr. Sheldon has made a book of much interest if not of first importance, in a field where no such volume has been printed before.

Mr. Monroe's collection of extracts from Greek and Roman sources is the most useful book of the year for teachers of the history of education. Mr. Mark's book is included not as of intrinsic importance, but because it is written from the foreigner's point of view and so may prove enlightening. Mr. Mark is thoroly competent to deal with the subject, and it is to be regretted that he did not get into better shape the material he collected while he was in America.

There are two other books—

Briggs—School, college, and character,

Münsterberg—American traits,

which would certainly have a place in such a list, were they not entirely reprints of magazine articles that have been noted as they first appeared. In book form the keen criticism, the temperate and graceful presentation, and abundant information of the two Harvard professors should get the wider reading they so well deserve.

The compilers had hoped to add brief lists of the more important European books, but they have been unable to obtain assistance except for Scandinavia. Prof. Dr. Rein, the distinguished Jena professor of education, writes that such a choice is too difficult when from three to four thousand books on educational subjects were published in Germany in 1901. He adds, however, that the Pädagogische Gesellschaft has a bibliography in hand and that the EDUCATIONAL REVIEW shall have due information concerning it. From France no word has come. From Scandinavia the following list has been sent thru the courteous kindness of Dr. Adolf Hansen, professor of English literature in the University of Copenhagen.

Danish

Halle, S. Norske skolespörgsmaal: en rejseberetning. 56 p. O. Evers, 1 crown.

Jespersen, Otto. Sprogundervisning. 183 p. O. Det Schubotheske forlag, 3 crowns, 25.

Written with great energy and enthusiasm. Advocates practical methods of teaching languages, early practice in speaking, and phonetic transcription. The book seems to show the author's want of sufficient practice as a teacher in schools, but is interesting and suggestive.

Wivel, H. G. Synspunkter for dansk sproglehre. 366 p. O. Det nordiske forlag, 5 crowns.

Norwegian

Arstal, Aksel. Foraeldre og börn. Pts. 1–5. Aschehoug.

Not yet complete.

The compilers again ask for criticism and suggestion; they again offer their work with diffidence, but with a hope that it may be of service.

OUTLINE OF CLASSIFICATION

Bibliography.
370. EDUCATION, THEORY, PHILOSOPHY.
  370.1 Psychology and education.
  370.5 Periodicals.
  370.6 Associations.
  370.7 Study and teaching. Normal schools.
  370.9 General histories of education: histories for special countries.
    370.92 Biography.
371. TEACHERS, METHODS, DISCIPLINE.
  371.1 Teachers.
    371.12 Training of teachers.
  371.2 School organization; the superintendent.
    371.23 Vacations.
    371.25 Classes, grades.
    371.27 Examinations, promotions.
  371.3 Methods of instruction (For methods in special branches see 375 and its subdivisions).
    371.42 Manual training.
  371.5 Government, discipline, punishment.
  371.6 School buildings, furniture, apparatus.
    371.64 School libraries; public libraries and schools.
  371.7 School hygiene.
    371.73 Physical training, gymnastics, athletics.
  371.8 Student life.
  371.9 Education of special classes.
    371.94 Negro.
372. ELEMENTARY EDUCATION.
  372.2 Kindergarten.
373. SECONDARY EDUCATION OTHER THAN PUBLIC.
  373.42 English public schools.
374. SELF EDUCATION, HOME EDUCATION.
375. CURRICULUM.
  375.04 Elective studies.
  375.3–375.9 Special subjects, divided according to decimal classification.

376. EDUCATION OF WOMEN.
377. RELIGIOUS AND ETHICAL INSTRUCTION.
378. HIGHER EDUCATION; COLLEGES AND UNIVERSITIES.
    378.01 College entrance requirements.
    378.13 University extension.
    378.2 Academic degrees.

Special countries

379. PUBLIC AND SECONDARY EDUCATION.
    379.1 American public school system.
    379.15 School supervision (*a*) city, (*b*) rural.
    379.16 National university.
    379.17 Secondary schools: in special countries.

The abbreviations used are ordinary ones easily comprehended. Volume and page are separated by the colon. Thus 6:386–407 means Vol. 6, pages 386 to 407. N. E. A. Proc. is, of course, National Educational Association, Journal of Proceedings. The report of the U. S. Commissioner of Education is nowhere entered as a whole, but each article appears under its appropriate subject. No date beyond the month is given in the reference, as 1901 is always understood.

BIBLIOGRAPHY OF EDUCATION, 1901

Bibliography

1 **Chamberlain, A. F.** Notes on Italian educational literature. (Ped. sem. Sept. 8 : 412–27.)

Includes an interesting notice of the book of Prof. Mosso, based on his visit to the U. S. at the time of the Clark university decennial.

2 **Columbia university library.** Books on education in the libraries of Columbia university. 435 p. Q. Col. univ., $1.

The fullest bibliography of education ever printed. Conveniently classified by subjects, with full author index. Includes not only books, but hundreds of references to chapters and parts of books.

3 **Wyer, J. I.** Recent educational bibliography. (School rev. Oct. 9 : 534–42.)

Lists and reviews twenty-two items not repeated here. Fourth annual summary.

4 **Wyer, J. I., and Lord, I. E.** Bibliography of education for 1900. (Educ. rev. Apr. 21 : 382–421.)

The second similar annual list.

370 EDUCATION—THEORY, PHILOSOPHY

5 **Butler, N. M.** Five evidences of an education. (Educ. rev. Nov. 22 : 326–34.)

Correct and precise use of mother tongue; good manners; the power to reflect, the power to grow, and the power to do.

6 **Carrel, Frederic.** An education. 372 p. O. Scott, 1/.

7 **Dodd, C. I.** Introduction to the Herbartian principles of teaching, with an introduction by Prof. W. Rein. 208 p. O. Sonnenschein, 4/6.

8 **Forbush, W. B.** The boy problem; a study in social pedagogy. Ed. 2. 194 p. D. Pilgrim press, .75.

While not touching upon the formal processes of education, this is distinctly a study in the fundamental principles of boy education. It is based, as Dr. Hall in congratulation tells us in his introduction, on the "latest psychogenetic research," but better still, it is based on much actual work done with boys.

9 **Gilman, Mrs. Charlotte (Perkins) Stetson.** Concerning children. 293 p. D. Small, $1.25.

"In spite of much that is unpractical and chimerical, the book has a great deal of sound sense embodied in it." Educ. times.

10 **Gorst, H. E.** The curse of education. 144 p. D. E. P. Dutton, $1.

A severe criticism of conventional and mechanical training.

"The book is unquestionably pungent and suggestive." Educ. times.

"The book is not constructive." Outlook.

11 **Hall, G. S.** The ideal school as based on child study. (In N. E. A. Proc. 474–90.)

"In this paper the author has brought together a number of his interpretations of recent investigations in psychology and education. Brilliant and stimulating, but unduly dogmatic and drawing radical inferences from what seem to many to be insufficient facts." Educ. rev.

This address is also discussed in Education Oct., 1901, p. 115–17, and is reprinted in the Forum for Sept., 1901.

12 **Harris, W. T.** Isolation in the school; how it hinders and how it helps. (In N. E. A. Proc. p. 357–66.)

By "isolation" is meant the separation of the work of instruction and discipline from the home life of the child.

13 **Herbart, J. F.** Letters and lectures on education; tr. fr. the Ger. by H. M. and Emmie Felkin, and a preface by Oscar Browning. 312 p. O. Sonnenschein, 4/6.

14 ——— Outlines of educational doctrine; tr. by A. F. Lange, with notes by Chas. De Garmo. 334 p. D. Macmillan, $1.25.

Herbart's latest and completest work on education, with some account of later advances in educational thought.

15 **Howerth, I. W.** Development of the social aim in education. (Jour. of ped. Jan. 13: 169–80.)

Continues articles in same journal for Dec., 1899, and Oct., 1900.

16 **Martin, G. H.** The spirit of the age in education. (Educ. rev. Mar. 21: 271–85.)

17 **Mundella, A. J.** Democracy and education, 16 p. O. King, 1d.

18 **Roark, R. N.** Outline of pedagogy. 160 p. D. Hinds, .75

19 **Roberts, R. D.** ed. Education in the nineteenth century: lectures delivered in the education section of the Cambridge university extension summer meeting in Aug., 1900. 286 p. O. Macmillan, $1.

Reviewed in Educ. times. 54: 182.

20 **Ross, E. A.** Education. (In his social control. Macmillan, $1.25. p. 163–79.)

The part played by education in the formal organization of society, and especially in a democracy.

21 **Search, P. W.** An ideal school; or, Looking forward. 357 p. D. Appleton, $1.50. (Internat. educ. ser. v. 52.)

Starting with the premise that our school system must be reconstructed, the author gives in detail his plan for securing conditions more favorable than now exist for the complete, rounded development of the child in public schools. Dr. Harris thinks its recommendations revolutionary and unwise.

22 **Weir, Samuel.** Realism, humanism, or education for society? (Jour. of ped. June. 13 : 325–49.)

A thoughtful attempt to fix the social function of education. Diffuse and dry.

23 **Woodward, C. M.** The change of front in education. (Science Sept. 27. 14 : 474–82.)

The passing from the old liberal, classical education to the new education for citizenship, artisanship, and science.

370.1 *Psychology and Education*

24 **Dewey, John.** Psychology and social practice. 42 p. D. Univ. of Chicago, .25 (Contributions to educ. 2.)

Shows why psychology is necessary to the teacher and argues that the higher the conception of the purpose of education, the greater is the need for understanding the place of pyschology in its foundation and as a means for realizing it.

In distinction from those who consider the social and the psychological ideals of education opposed to each other, this article insists that they are necessary to each other.

25 **Patrick, J. N.** Psychology for teachers, with suggestions on method; for use in high schools and teachers' institutes. 352 p. D. Educ. pub. co.

26 **Raymont, T.** Psychology and education, (Jour. of educ. Lond. Oct. p. 659–62.)

While admitting that psychology has a certain limited bearing on some phases of education,—for instance, on methods of teaching children,—the author seriously quarrels with the view which constructs our entire theory and practice of education out of "applied psychology."

27 **Sully, James.** Child-study and education. (Internat. mo. Mar. 3 : 314–43.)

An effective reply to Prof. Münsterberg's contention that neither child-study nor psychology has any direct bearing on education. A sensible statement of the absurdities and shallowness of much so-called educational psychology, with a summary of what is vital and important.

28 **Thorndike, E. L.** Syllabi of courses in elementary and applied psychology. (Teachers coll. rec. Sept. 2 : 275–322.)

An account of the required work in these topics at Teachers college.

370.5 *Periodicals*

29 **Russell, John.** Educational periodicals in England, 1800–1850. (Educ. rev. Dec. 22 : 472–97.)

A classified list of sixty titles, with extended notes as to purpose and life history of each.

370.6 *Associations*

30 **Association of Catholic colleges of the U. S.** Report of the third annual conference. 136 p. O. Cath. univ. Washington.

31 **Association of colleges and preparatory schools of the middle states and Maryland.** Proceedings of the fourteenth annual convention held at Philadelphia, Nov. 30–Dec. 1, 1900. 165 p. O. Univ. State of N. Y., .25 (Regents bulletin 53.)

Longer papers entered separately.

32 **Association of colleges and preparatory schools of the southern states.** Proceedings of the seventh annual meeting, Nov. 6–8, 1901. 73 p. O. Chic. Univ. press.

Chancellor J. H. Kirkland, Vanderbilt univ., is secretary.

33 **National educational association.** Journal of proceedings and addresses of the fortieth annual meeting, Detroit, July 8–12, 1901. 1034 p. O. Irwin Shepard, Winona, Minn., $2.

Important papers are separately entered under proper subjects.

34 **New England association of colleges and preparatory schools.** Official report of the sixteenth annual meeting, held at Boston, Mass., Oct. 11–12, 1901. 104 p. O. School review, Chicago, n. p.

Reprinted from School review Dec., 1901. Papers entered separately.

35 **New York (state)—University.** Thirty-ninth university convocation. 200 p. O. Univ. State of N. Y., .30. (Regents bulletin 55.)

36 **Schoolmasters' association of New York and vicinity.** Ninth annual report. 83 p. O. Assoc., no price.

Three papers, two of which are separately noted under their proper headings.

37 **Southern educational association.** Journal of proceedings and addresses of the tenth annual meeting, held at Richmond, Dec., 1900. 380 p. O. P. P. Claxton, Greenboro, N. C., $2.

370.9 *History, General*

See also 378 and 379.

38 **Bay, J. C.** The peasant universities of Denmark. (Educ. Sept. 22 : 15–22.)

39 **Brown, E. E.** Educational progress of the year. (Educ. rev. Sept. 22 : 109–36.)

Notes significant events and tendencies, not only in the U. S. and her colonies, but in Europe. Mentions the notable American books and briefly discusses the sociological importance of education in American life. Also in N. E. A. Proc. p. 366–86.

40 **Conway, M. M.** Topical studies and questions in history of education. 75 p. S. Bardeen, .50

41 **Education** at the Paris exposition. (In U. S.—Education, Comm'r of. Report, 1899–1900. 2 : 1661–1709.)

A collection of papers and reports, by several persons, describing some of the most noteworthy features and exhibits.

42 **Monroe, Paul,** *compiler.* Source book of the history of education for the Greek and Roman period. 515 p. D. Macmillan, $2.25.

A discriminating selection from standard translations, presented with brief unifying comments by the compiler. This useful volume should save the use of twenty other books by students in college courses.

43 **Smith, A. T.** Educational lessons of the Paris exposition. (Educ. rev. Sept. 22 : 137–47.)

Describes the American educational exhibit and compares it in spirit, scope, and matter with those of England and France. Also in N. E. A. Proc. p. 439–56.

44 **Spalding, J. L.** Progress in education. (In N. E. A. Proc. p. 66–85.)

45 **Storr.** Education. (In The mind of the century. 146 p. O. Unwin, 2/)

Favorably noticed in Athenæum.

46 **Ware, Fabian.** Educational foundations of trade and industry. 300 p. D. Appleton, $1.20 net. (Internat. educ. ser. v. 54.)

Contents: The growth of national systems of education; Voluntary efforts in England to lay educational foundations; The attempts of the English government to lay educational foundations: The foundations laid by the German government: The foundations laid in France; The foundations laid in America; Conclusions.

"A clearly arranged historical sketch of the elaboration of the phase of education with which he is concerned in Germany, France, and the United States, as well as a very interesting comparison of the salient characteristics of the different national systems." Athenæum.

America

See also 379.73.

49 **Brown, E. E.** Secondary education in the U. S. (School rev. Jan. 9 : 34-52.)

Continues chapter 3. The high-school period.

48 **Compayré, Gabriel.** School exhibits and pedagogical monographs from the U. S. at the Paris exposition. (Educ. Feb.–Mar. 21 : 341–56, 420–35.)

49 **Eggleston, Edward.** The tradition of education. (In his Transit of civilization from England to America. Appleton, $1.50. p. 207–72.)

An excellent account of the beginnings of education in the New England colonies, showing the effect of English ideas and customs, and when and how the colonies differentiated. From the days of the Horn book, the New England primer, and the dame school the course is traced thru the birth of the Latin school and the earliest gifts and endowments to the marked educational decline as pioneer life made its stern demands on the new generations.

50 **Hanus, P. H.** Preparation for college and for life. (Educ. rev. Feb. 21 : 140–52.)

Sketches briefly the history of American secondary education, emphasizing especially those narrow congenital features which have so long delayed effective articulation with higher education.

51 **Mark, H. T.** Individuality and the moral aim in American education; the Gilchrist report presented to the Victoria university, March, 1901. 298 p. O. Longmans, $1.50 net.

Sympathetic account of American educational organization and work.

52 **Mayo, A. D.** Organization and development of the American common school in the Atlantic and central states of the south, 1830–60. (In U. S.—Education, Comm'r of. Report, 1899–1900. 1 : 427–561.)

53 **Mowry, W. A.** The first American public school. (Educ. May. 21 : 535–48.)

The beginnings of tax-supported schools in New England at Dorchester, Mass., in 1639.

Rhode Island

54 **Providence (R. I.)—School committee.** Report for the year 1899–1900; centennial celebration of the establishment of the public schools. 367 p. O. Snow & Farnham. Providence.

The book is a history of the Providence public schools.

South Carolina

55 **Thornwell, J. H.** Public instruction in South Carolina. (In U. S.—Education, Comm'r of. Report, 1899–1900. 1 : 403–26.)

An argument, written in 1853, for bringing the means of education free to every child in the state.

Virginia

56 **Ruffner, Henry.** Proposed plan for the organization and support of common schools in Virginia. (In U. S.—Education, Comm'r of. Report, 1899–1900. 1 : 381–403.)

Presented to Va. legislature in 1841 when Ruffner was president of Washington univ.

Colonies and Dependencies

57 **Education** in Cuba, Porto Rico, Hawaii, and Samoa. (In U. S.—Education, Comm'r of. Report, 1899–1900. 2 : 1640–59.)

Chronicle of current events.

Alaska

58 **Jackson, Sheldon.** Report on education in Alaska. (In U. S.—Education, Comm'r of. Report, 1899–1900. 2 : 1733–62.)

Includes account of missionaries and mission work in Alaska.

Philippines

59 **Intellectual** attainments and education of the Filipinos. (In U. S.—Education, Comm'r of. Report, 1899–1900. 2 : 1595–1640.)

Discusses the susceptibility of the Filipino to education, the effect of climatic and political conditions on his education, and the results of Spanish culture and rule in the islands.

60 **Nash, F. W.** Education in the Philippines. (Educ. rev. Oct. 22 : 217–27.)

Outlines the organization and progress of the work now being done by the U. S. government.

Porto Rico

61 **Eaton, John.** Education in Porto Rico. (In U. S.—Education, Comm'r of. Report, 1899–1900. 1 : 221–73.)

Describes educational conditions at the moment of the transfer of the island to the U. S.

62 **U. S.—Comm'r of education for Porto Rico.** Report to the Secretary of the interior. 209 p. O. Wash., Govt. printing office.

Great Britain

63 **Hughes, R. E.** Schools at home and abroad. 344 p. O. Sonnenschein, 4/6.

A collection of essays. Severe criticism of American primary teachers.

64 **McCarthy, M. J. F.** Address on education in Ireland. Second address on education in Ireland. O. Simpkin, 2/ ea.

65 **National** education : essays towards a constructive policy. 312 p. O. Murray, 7/6 net.

Essays by various writers.

66 **Reddie, Cecil.** John Bull : his origin and character, and the present condition of his big property, and two other papers on education. 76 p. O. Allen, 6d. net.

By the head-master of Abbotsholme.

67 **Ridding, Lady Laura.** Women on education authorities. (Contemp. rev. Jan. 79 : 109–16.)

Account of the part taken by women in official capacities in education in England.

370.92 *Biography*

68 **Bardeen, C. W.** Dictionary of educational biography. 287 p. D. Bardeen, $2.

An interesting collection of over four hundred portraits of men and women remotely or intimately concerned in educational work, with very brief biographical comment on each name.

69 *Barnard, Henry.* In memoriam Henry Barnard. (In N. E. A. Proc. p. 390–438.)

Five addresses delivered in his honor at Detroit.

70 *Dickens, Charles.* **Hughes, J. L.** Dickens as an educator. 319 p. D, Appleton, $1.50. (Internat. educ. ser. v. 49.)

One-fourth Hughes and fully three-fourths educational extracts from Dickens' books. The book is entertaining, but is not Dickens as a conscious educator taken too seriously? Similar books might easily be compiled showing him as a lawyer, a preacher, or a criminal.

71 *Dickinson, John Woodbridge.* **Ballou, H. S.** Educational services of the late J. W. Dickinson. (Educ. Oct. 22 : 65–77.)

72 *Hinsdale, Burke Aaron.* **Angell, J. B.**, and others. B. A. Hinsdale. (Educ. rev. Feb. 21 : 185–99.)

A good portrait precedes and a list of Dr. Hinsdale's writings follows.

73 *Johnston, William Preston.* **Cooper, Jacob.** William Preston Johnston. (In U. S.—Education, Comm'r of. Report, 1899–1900. 2 : 1402–07.)

74 *Pestalozzi, Johann Heinrich.* **Pinloche, A.** Pestalozzi and [the foundation of the modern elementary school. 306 p. D. Scribner, $1. (The great educators.)

Part 1, 116 p., biography ; Part 2, 165 p., his theory of education ; Part 3, 13 p., his influence.

To judge from the book, the author, a French professor, wrote it himself in English. The presentation of Pestalozzi's educational theory in part 2 is in the form of extracts or paraphrase from his various works with little or no critical comment. The entire book indeed is merely a presentation of facts, leaving judgments and conclusions to the reader.

371.1 *Teachers*

75 **Gale, Harlow.** Foes or friends? (Jour. of ped. June. 13 : 359–70.)

Things are not as bad as the clever, but pessimistic, author believes. He assigns as reason for the somewhat antagonistic relations between student and teacher in college work, the required study of too many trivial subjects and the perversion of aim and method in important ones, all for discipline's sake.

76 **Seeley, Levi.** Foundations of education. 263 p. D. Hinds, $1.

A collection of practical suggestions, addressed chiefly to teachers, on the profession. the curriculum, discipline, the recitation, moral and religious education.

77 **Tappan, E. M.** On acquiring a margin. (Jour. of ped. Sept. 14 : 66–76.)

A breezy, wholesome paper about teaching and learning.

371.12 *Training of Teachers*

78 **Dana, M. T.** The New York state normal schools. (Educ. rev. Jan. 21 : 82–87.)

A practical discussion of possible defects and remedies.

79 **De Garmo, Charles.** School reform: a reply to Prof. Münsterberg. (Educ. rev. Feb. 21 : 118–31.)

Devotes several paragraphs to "Election," but is mainly a discussion of the professional training of teachers.

80 **Hollis, A. P.** The present status of practice teaching in state normal schools. (Ped. sem. Dec. 8 : 495–509.)

Statistics from seventy-two schools showing the like and unlike methods in practice teaching in various subjects.

81 **Hughes, E. P.** Training of teachers. (In Roberts. Educ. in the nineteenth century. Macmillan, $1. 171–92.)

In England only and since 1828.

82 **Laurie, S. S.** Training of teachers and methods of instruction; selected papers. 304 p. O. Clay, 6/.

83 **Payne, W. H.** The education of teachers. 272 p. O. B. F. Johnson pub. co., Richmond, Va., $1.50.

The author thinks a teacher should be liberally educated rather than trained, that he should be first of all a scholar, and that even his strictly professional training should be of the liberal type. The book is a series of eight articles, which seem to have been given originally as Lectures and not very carefully edited for publication as a book, and in which the author's notions appear as to what constitutes the proper education for teachers. The chapter on a theory of education values is especially sound.

371.2 *School organization: The superintendent*

84 **Thompson, A. I.** Superintendent from the primary teacher's point of view. (Forum. Mar. 31 : 47–55.)

85 **Woodward, C. M.** When and why pupils leave school: how to promote attendance in the higher grades. (In U. S.—Education, Comm'r of. Report, 1899–1900. 2 : 1364–74.)

86 **Young, E. F.** Isolation in the school. 111 p. D. Univ. of Chicago, .50 (Contributions to educ. 1.)

Discusses the question of school organization in the light of recent psychological and ethical thought, treating the school as an institution. Entire unity in purpose and administrative work between teachers and supervisors.

371.23 *Vacations*

87 **Public** playgrounds and vacation schools. (In U. S.—Education, Comm'r of. Report, 1899–1900. 1 : 895–904.)

371.25 *Classes, Grades*

88 **Shearer, W. J.** Greater flexibility in high school work. (School rev. Mar.–Apr. 9 : 137–49; 232–42.)

Advocates greater freedom in selection of subjects and courses and greater elasticity in classifying pupils.

371.27 *Examinations*

89 **Clapp, H. L.** Examinations. (Educ. Mar. 21 : 387–97.)

A defense of examinations.

90 **Hadley, A. T.** Use and control of examinations. (Educ. rev. Mar. 21 : 286–300.)

For college entrance. Also in N. E. A. Proc., p. 240–50, and in the author's Education of the American citizen. p. 191–209.

371.3 *Methods of instruction*

See also No. 82.

91 **Greenwood, J. M.** Principles of education practically applied. Ed. 2. 199 p. D. Appleton, $1. (Internat. educ. ser. v. 50.)

The first edition of 1887 has been changed in many details, enlarged by seven pages, and modernized somewhat in the chapters on method.

92 **Murphy, D. C.** Turning points in teaching; or, Law-making and law-breaking in the schoolroom. 144 p. S. Flanagan, .50

93 **White, E. E.** The art of teaching. 321 p. D. Amer. book co., $1.

"This veteran author is here at his best, and we can give the volume hearty commendation. Altho we deem many of his methods antiquated and mechanical, there is everywhere such seriousness of purpose, such familiarity with the inner work of classrooms, and such a sincere desire to utilize what is new while giving up nothing of the old that the work is sure to stimulate and instruct every reader." Ped. sem.

Also reviewed at length, and not altogether favorably, in Educ rev. for Mar., 1902.

371.42 *Manual training*

94 **Council of supervisors of the manual arts.** Year book of first annual meeting. 80 p. D. New Haven.

Prints several good articles on the teaching of manual training.

95 **King, J. A.** Mechanical training as part of higher education. (Jour. of ped. Jan. 13 : 258–69.)

96 **Rouillion, Louis.** The economics of hand work in elementary and secondary schools. (Teachers coll. rec. Nov. 2 : 323–86.)

"The purpose of this paper is to put in brief and concise form such information regarding the cost of installing and maintaining manual training as part of a school curriculum as may be of interest and help to superintendents facing this problem."

For further material consult the Manual training magazine pub. monthly by the University of Chicago; the N. E. A. Proc. Dep't. of Superintendence, p. 250–75 and p. 646–82, for papers read in the Manual training Dep't.

371.5 *Government: Discipline*

97 **Truant** schools. (In U. S.—Education, Comm'r of. Report, 1899–1900. 1 : 85–219.)

Relates the evolution of these schools and considers their present status, giving the truant law of each state. The systems for dealing with truancy in Mass., Conn., and New York are fully compared and analyzed. There is a brief account of similar schools in Gt. Britain.

371.6 *School buildings, furniture and apparatus*

98 **Blodgett, J. H.** Defects of elementary text-books. (Educ. rev. Jan. 2 : 64–81.)

99 **Wheelwright, E. M.** School architecture. 350 p. O. Rogers & Manson (Bost.), $5.

Not unduly technical. Contains a mass of information, well illustrated.

371.64 *School libraries; libraries and schools*

100 **Crunden, F. M.** The school and the library; the value of literature in early education. (In N. E. A. Proc. p. 108–18.)

Not *how* school and library *may* co-operate, but *why* they *should* do so.

See also papers by Melvil Dewey, J. H. Canfield, and others on libraries and education printed in the N. E. A. Proc., p. 830–67; also the number of Public libraries for Feb., 1901, which is the school number.

371.7 *School hygiene*

101 **Easton, E. T.** The public schools and eyesight. (Educ. Feb. 21 : 323–34.)

102 **Hope, E. W., and Browne, E. A.** Manual of school hygiene. 207 p. D. Macmillan, $1.

Some practical precepts relating to the hygiene of schools are concisely stated. The chapters on Exercise and health in the second part are especially sound. The book will not compare in usefulness for American teachers with Mr. Shaw's volume mentioned below.

"The only especially notable portion of the book is the extensive, thoro, and satisfactory chapter on the eye." Educ. rev., (Lond.)

103 **Howe, E. M.** School ventilation. (In Association of collegiate alumnæ. Publications. Feb. p. 64–71.)

Speaks wholly of how universally bad it is, with some reasons why this is so and of the great importance of having it good.

104 **Johnson, G. E.** Condition of the teeth of children in public schools. (Ped. sem. Mar. 8 : 45–58.)

105 **Seashore, C. E.** Suggestions for tests on school children. (Educ. rev. June. 22 : 69–82.)

Describes methods and apparatus for testing fatigue, sight, hearing, physical measurements, etc., worked out in the laboratory of Iowa state university.

106 **Shaw, E. R.** School hygiene. 260 p. O. Macmillan, $1. (Teachers' professional library.)

Condensed, accurate statement of the conditions which surround most school children, with suggested measures for the protection and promotion of their physical and mental health. The facts here collected and clearly stated have before been widely scattered. Some of the chapters, notably those on Handwriting and Sight, are largely new, scientific and of much value. Kotelmann and Newholme, which have been the only manuals of any consequence in this subject, are entirely supplanted for American schools by this book, since the monograph by Mr. Morrison on Education in the U. S. concerned itself entirely with the school building.

371.73 *Physical training ; Gymnastics ; Athletics.*

107 **American association for the advancement of physical education.** Proceedings of the 12th annual convention. (Amer. phys. educ. rev. June. 6 : 107–97.)

Eight good, brief papers are printed, which cover various topics in athletics and anthropometry.

108 **Bates, Arlo.** The negative side of modern athletics. (Forum May. 31 : 287–97.)

Written to defend "the conviction that athletics in education is to-day the most serious obstacle to the advancement of intellectual growth."

109 **Dowding, A. J. C.** Games in preparatory schools. (In Great Britain—Board of education. Special reports on educ. subjects. 6 : 343–71.)

In English boys' schools.

110 **Kemp, J. F.** History of faculty regulation of athletics at Columbia, (Col. univ. quar. Dec. 4 : 33–40.)

Continued in later numbers.

111 **Leonard, F. E.** Physical training in the schools of Stockholm. (Amer. phys. educ. rev. Mar. 6 : 1–13.)

112 **Wickham, C. T.** Health and physical training in preparatory schools. (In Great Britain—Board of education. Special reports on educ. subjects. 6 : 327–42.)

This is of course from the English point of view and concerns dormitory life.

371.8 *Student life*

113 **Briggs, L. B. R.** College honor. (In his School, college, and character. Houghton, $1. p. 65–90.)

Also in Atlantic, Oct.

114 **Fallows, A. K.** Working one's way through college. (Century, June. 62 : 163–77.)

115 **Ridgway, E. J.** College fraternities. (Munsey, Feb. 24 : 729–42.)

116 **Sheldon, H. D.** Student life and customs. 366 p. D. Appleton, $1.50. (Internat. educ. ser. v. 51.)

Collects much widely scattered material into a very useful and interesting book. First two hundred pages are historical before 1870, and chap. five deals with Fraternities, athletics, student government, and societies. The bibliography is extensive and well done.

371.9 *Education of special classes*

117 **Henderson, C. R.** Social arrangements for the education of defectives. (In his Introd. to the study of the dependent, defective, and delinquent classes. Ed. 2. Heath, $1.50. p. 169–82.)

See also the N. E. A. Proc., p. 868–89; current files of American annals of the deaf, Washington, D. C.; Association review, Mt. Airy, Phil.; the publications of the Volta bureau, Washington, D. C.

371.94 *Negro education*

See also No. 375.6.

118 **Barringer, P. B.** Negro education in the south. (Educ. rev. Mar. 21 : 233–43.)

Treats the political menace of the race problem and offers as solution negro franchise based upon a property qualification, then education.

119 **Miller, Kelly.** The negro and education. (Forum. Feb. 30 : 693–705.)

372 ELEMENTARY EDUCATION

All material on child-study has been omitted. For this see yearly bibliography compiled by Mr. L. N. Wilson of Clark university.

A general Bibliography of child-study was compiled by L. I. Rhoades, Pedagogical library, Philadelphia, and pub. in 1901. It is an octavo pamphlet of 128 pages in one alphabet of authors.

120 **Collar, George, and Crook, C. W.** School management and methods of instruction with especial reference to elementary schools. 336 p. D. Macmillan, $1.

Brief, helpful treatment of the usual elementary school topics from the English point of view.

"Though primarily intended for elementary teachers, much of its contents will be found helpful to those who teach in secondary schools. The chapter on the teaching of languages . . . is particularly valuable." Educ. rev. (Lond.)

121 **Fitch, Joshua.** Primary education. (In Roberts. Educ. in the nineteenth century. Macmillan, $1. p. 34–58.)

Has to do entirely with England and largely with public education.

122 **Lee, Joseph.** Playground education. (Educ. rev. Dec. 22 : 449–71.)

123 **Lilley, H. M.** The second school year. 224 p. D. Bardeen, $1.

A manual of what should form, in plan and matter, the work of the whole year. The results for character as well as information are carefully kept in mind.

124 **Ward, Agnes.** Some aspects of theory and practice in infant education. (In Roberts. Educ. in the nineteenth cent. Macmillan, $1. p. 15–33.)

Describes some of the oddities of method and juvenile literature which passed for infant education in England early in the century.

372.2 *Kindergarten*

125 **Boies, H. M.** Kindergartens and orphanage training. (In his Science of penology. Putnam, $3.50. p. 392–415.)

The civic importance of careful infant-nurture and that of mother-training are discussed as the two chief concerns of the kindergarten.

126 **Hansen, George.** What is a kindergarten? 80 p. S. D. P. Elder, San Francisco, .75

127 **Smith, N. A.** The message of Froebel. 120 p. D. Milton Bradley, .50

For additional kindergarten material, too unimportant to be given here, see the files of the Kindergarten magazine and Kindergarten review, and the N. E. A. Proc. p. 501–39.

373 SECONDARY EDUCATION OTHER THAN PUBLIC; PRIVATE SCHOOLS AND ACADEMIES

128 **Jackman, W. S.** Notes on foreign schools. (Educ. rev. Mar. 21 : 217–32; June, 22 : 50–68.)

Describes the life at Dr. Lietz' Deutsches Landerziehungsheim, Dr. Reddie's Abbotsholme, the Bedales school near Brighton, and the École des Roches of Edmond Demolins, and various less famous schools in England, France, and Germany.

373.42 *England*

129 **Aronstein, Ph.** The development of English secondary schools for boys. (In U. S.—Education, Comm'r of. Report, 1899–1900. 1 : 45–84.)

Relates the origin, in the fourteenth century, the growth, influence, and relation to the public of the great English public schools like Eton, Rugby, and Harrow.

130 **Great Britain—Board of education.** Preparatory schools for boys; their place in English secondary education. 531 p. O. Eyre & Spottiswoode, 2/3.

This valuable book is volume 6 of the Special reports on educational subjects edited by Mr. M. E. Sadler. The schools described, of which there are about four hundred in England, are what would be called private boarding schools in the United States. They prepare only for the great English Public schools and the Royal Navy, and do not keep boys beyond the age of fourteen.

The volume comprises forty papers, mostly by head-masters. About half are concerned with details of the curriculum and methods in special branches, while the other and most interesting half treat of the broader significance and work of the schools. The papers are honest recognitions of both failure and success, and nearly all excellently done.

131 **Minchin, J. G. C.** Our public schools, their influence on English history. 474 p. O. Sonnenschein, 6/.

Charterhouse, Eton, Harrow, Merchant Taylor, Rugby, St. Paul's, Westminster, Winchester.

132 *Harrow.* **Williams, J. F.** Harrow. 202 p. il. O. Bell, 3/6 net. (Handbooks to the great public schools.)

133 *Stonyhurst.* **Gruggen, George, and Keating, Joseph.** Stonyhurst, its past history and life in the present. 292 p. O. Paul, 7/6.

"No public school in England can boast of a more romantic history than the Jesuit college of Stonyhurst. A complete handbook in convenient form." Athenæum.

134 *Winchester.* **Warner, R. T.** Winchester. 234 p. il. O. Bell, 3/6 net. (Handbooks to the great public schools.)

Winchester is the oldest of the English public schools.

374 SELF EDUCATION

135 **Adams, H. B.** Educational extension in the U. S. (In U. S.—Education, Comm'r of. Report, 1899–1900. 1 : 275–379.)

Describes some of the informal educational agencies, newspapers, lecture courses, university extension, summer schools, libraries, museums, and art galleries.

375 CURRICULUM: METHODS IN SPECIAL BRANCHES

136 **Boone, R. G.** A standard course of study for elementary schools in cities. (In N. E. A. Proc. p. 303–20.)

137 ——. Suggestion vs. prescription in courses of study. (Educ. Sept. 22 : 1–9.)

Traces the growth of flexibility in the curriculum.

138 **Dewey, John.** The situation as regards the course of study. (In N. E. A. Proc. p. 332–48.)

Also in Educ. rev. June.

139 **Schwab, J. C.** The Yale curriculum, 1701–1901. (Educ. rev. June. 22 : 1–17.)

The evolution of the undergraduate academical course of study.

375.04 *Elective studies*

See also 378.08.

140 **Briggs, L. B. R.** Some old-fashioned doubts about new-fashioned education; Some aspects of grammar-school training. (In his School, college, and character. Houghton, $1. p. 43–64; 91–126.)

One of the keenest arguments in print against the elective system, especially outside the college.

141 **Corbin, John.** Is the elective system elective? (Forum July. 31 : 599–608.)

Takes his cue from Prof. Münsterberg and Dean Briggs, but his argument is neither strong nor convincing as against the merit of the elective system *per se*. If it is *not* elective it can surely be made so, if that is desirable.

142 **Dexter, E. G.** Freedom in the high school course. (Jour. of ped. Dec. 14 : 97–108.)

With four years of English, three of mathematics, and a certain amount of history and science required, the balance of the high school course may safely be made elective

143 **Hanus, P. H.** Two contemporary problems in education. (Pop. sci. mo. April. 58 : 585–94.)

Elective system and articulation in secondary education.

144 **Phillips, D. E.** The elective system in American education. (Ped. sem. June. 8 : 206–39.

Part 1. In colleges and universities.

Part 2. In secondary schools.

A valuable study based upon actual facts as they exist to-day, and recording distinct tendency toward greater freedom of choice in education.

145 **Tetlow, John.** Elective studies in high schools. (Educ. rev. Jan. 21 : 39–48.)

An objection to the "elective system," when the first word and not the last is emphasized.

The School rev. for Feb., is devoted almost entirely to papers on elective work, its problems and limitations.

375.3 *Sociology and economics in the curriculum*

146 **Hill, E. E.** The teaching of social sciences in secondary schools. (Educ. Apr. 21 : 497–502.)

Not about methods, but a statement as to the amount of such studies taught.

147 **Vincent, G. E.** Social science and the curriculum. (In N. E. A. Proc. p. 124–31.)

Argument: as education is a socializing process, there should be a social philosophy unifying the whole curriculum and making it a single potent agency for civic and moral advancement.

148 **Ward, L. F.** Sociology at the Paris exposition of 1900. (In U. S.—Education, Comm'r of. Report, 1899–1900. 2 : 1451–1593.)

Chiefly devoted to the reports on the teaching of the social sciences in different countries that were submitted to the International Congress for instruction in the social sciences.

375.34 *Legal education*

149 **Ashley, C. D.** Legal education and preparation therefor. 13 p. O.

Paper by the Dean of the New York university law school, read before the Section of legal education of the American bar association, at Denver, Aug., 1901.

150 **Finch, F. M.** Legal education. (Amer. law rev. July–Aug. 35 : 481–94.)

375.5 *Science in the curriculum*

151 **Gager, C. S.** Errors in science teaching. 73 p. S. Bardeen, .50

152 **Kimmins, C. W.** Science teaching in schools. (In Roberts. Educ. in the nineteenth century. Macmillan, $1. p. 121–39.)

153 **Pritchett, H. S.** Education for government scientific work. (Educ. rev. Feb. 21 : 109–17.)

Also in Assoc. of colleges, etc., of the middle states, etc. Proceedings. p. 53–62.

154 **Science** in secondary schools. (Jour. of ped. Jan. 13 : 195–210.)

A discussion at the Ohio conference of collegiate and secondary instructors. Place in curriculum, methods and disciplinary value compared with the humanities.

155 **School** science; a journal of science teaching in secondary schools edited by C. E. Linebarger. Chicago, $2 per year.

A monthly journal begun in March, 1901. Prints brief articles on methods in special branches and accounts of laboratory experiments.

375.51 *Mathematics in the curriculum*

156 **Baker, A. L.** Education *vs.* instruction in mathematics. (Jour. of ped. Sept. 14 : 46–59.)

157 **Branford, Benchara.** Measurement and simple surveying ; an experiment in the teaching of elementary geometry. (Jour. of educ. Lond. May. p. 331–36.)

For the first two parts of this suggestive article see same journal, 1900. p. 124 and 263.

158 **Hurst, G. H. J.** Mathematics and physics in public schools. (Nature Feb. 14. 63 : 370–71.)

A plea for a change in the order of teaching the various parts of mathematics in English high schools.

159 **Yocum, A. D.** An inquiry into the teaching of addition and subtraction. 92 p. Avil printing Co., 1001 Chestnut St., Philadelphia.

375.54 *Chemistry in the curriculum*

160 **Long, J. H.** Some points in the early history and present condition of the teaching of chemistry in the medical schools of the U. S. (Science Sept. 6. 14 : 360–72.)

161 **Newell, L. C.** More profitable high-school chemistry. (School rev. May. 9 : 286–97.)

375.57 *Biological sciences*

162 **Howell, W. H.** Biology as an element in college training. (Science Jan. 11. 13 : 49–57.)

163 **Lloyd, F. E., and Bigelow, M. A.** Course in biology in the Horace Mann school. (Teachers coll. rec. Jan. 2 : 1–59.)

p. 4–30. Outline syllabus of course in zoölogy, illustrating by the crayfish, given in the first high-school year.

p. 30–59, Similar syllabus for elementary botany.

164 **Ganong, W. F.** Suggestions for an attempt to secure a standard college entrance option in botany. (Science Apr. 19. 13 : 611–16.)

375.6 *Technical and industrial education*

165 **Johnson, J. B.** Two kinds of education for engineers ; an address to the engineering students, Univ. of Wis. Oct. 11, 1901. 16 p. O.

Emphasizes the cultural, as of equal importance with the technical, preparation.

166 **Magnus, Philip.** Industrial education in England. (In Roberts. Educ. in the nineteenth century. Macmillan, $1. p. 140–70.)

167 **Rawson, S. G.** The nation, the apprentice, and the polytechnic. (Contemp. rev. Oct. 80 : 584–98.)

The students, equipment, and system of British technical schools are compared, to their disadvantage, with similar conditions abroad.

168 **Schoenhof, Jacob.** Higher technical training. (Forum July. 31 : 561–75.)

The experience of foreign countries as to the direct bearing of industrial and polytechnic education on success in commerce and manufactures.

169 **Society for the promotion of engineering education.** Proceedings of the ninth annual meeting held in Buffalo, June 29–July 2, 1901. 348 p. O. Eng. news co., $2.

Prints in full about twenty papers on as many phases of the subjects. This is the most important annual publication in its field, and a *sine qua non* to everyone who wishes to follow engineering education.

170 **U. S.—Industrial commission.** General and industrial education. (In U. S.—Industrial com. Report, 73+259 p. in vol. 15.)

Treats largely of educational conditions in the south and of negro education; 259 pages of varied testimony is digested in 73 pages, but the conclusions and recommendations of the commission are reserved for its final report, in which volume (19) however, educational subjects get very slight and incidental mention; no summing up of any value.

375.61 *Medicine*

171 **Bibliography** of literature upon medical pedagogy and curriculums published in 1899 to Mar., 1900. (In Amer. acad. of medicine. Bull. Feb. 5 : 236–38.)

172 **Association of American medical colleges.** Papers and proceedings at St. Paul meeting June 3, 1901. (In Amer. Acad. of medicine. Bull. Aug. 5 : 490–568.)

Seven papers, all dealing with some phase of medical education.

173 **Councilman, W. T.** Harvard's opportunity in medicine. (Harv. grad. mag. Mar. 9 : 339–48.)

Suggestions as to the organization and conduct of the Harvard medical school.

174 **Lee, F. S.** Preparation for the study of medicine. (Col. univ. quar. Mar. 3 : 93–105.)

175 **Medical** colleges in the U. S. (In Amer. acad. of medicine. Bull. June. 5 : 349–486.)

An alphabetical list by states of all U. S. medical colleges, giving synopsis of state laws relating to practice, tuition, number of students, and examinations made by state boards.

176 **Porter, W. T.** The teaching of physiology. (Nature Feb. 28. 63 : 427–31.)

Reprinted from Philadelphia medical journal.

375.63 *Agriculture*

177 **Bogen, B. D.** Courses of studies in agriculture. (Educ. Oct. 22 : 89–94.)

Gives detailed syllabus by weeks and months for a one-year practical course.

178 **Butterfield, K. L.** A significant factor in agricultural education. (Educ. rev. Mar. 21 : 301–06.)

The work of the grange and of farmers' institutes.

179 **Teaching** of agriculture in elementary and higher schools in the West Indies. (In Great Britain—Board of education. Special reports on educational subjects. 4 : 797–834.)

Deals with the British West Indies only.

375.65 *Commercial education*

180 **Hooper, Frederick, and Graham, James.** Commercial education at home and abroad; a comprehensive handbook providing materials for a scheme of commercial education for the United Kingdom, including suggested curricula for all grades of educational institutions. 267 p. D. Macmillan, $1.50.

"Minute and accurate information on existing commercial methods, together with many valuable suggestions and feasible schemes for the foundation of commercial schools." Educ. rev. (Lond.)

181 **James, E. T.** Relation of the college and university to higher commercial education. (In Amer. econ. assoc. Publications Feb. 144–65.)

182 **Whitfield, E. E.** Commercial education in theory and practice. 324 p. O. Methuen, 5/.

"Presents an intelligent, discriminating, yet very comprehensive knowledge of the whole subject." Educ. times.

See also the papers read at the Department of business education of the N. E. A. and printed in the annual volume.

375.7 *Art education*

183 **Hine, W. E.** Art teaching in preparatory schools. (In Great Britain—Board of education. Special reports on educ. subjects. 6 : 279–97.

See also N. E. A. Proc. p. 683–703 for other papers read in the Art department.

375.78 *Music*

184 **Curwen, J. S.** School music abroad: reports on visits to foreign schools, 1882–1901. 140 p. S. Scribner, $1.

See also the papers printed in the N. E. A. Proceedings under the Department of Music education, the current files of The school music monthly, Keokuk, Iowa, and of Music.

375.8 *Rhetoric, etc.*

185 **Baker, G. P.** Intercollegiate debating. (In Assoc. of colleges, etc., of the middle states, etc. Proc. 14 : 102–17.)

186 **Lee, D. C.** Oratory in colleges. (In Assoc. of colleges, etc., of the middle states, etc. 14 : 117–27.)

375.82 *English language and literature*

187 **Abbott, Allan.** English in secondary schools. (School rev. June. 9 : 388–402.)

An attempt to determine a good working basis of method from the extensive literature of this subject in the past ten years.

188 **Bates, Arlo.** Talks on writing English: Second series. 259 p. D. Houghton, $1.30.

Discusses the more delicate features of composition and thus supplements his earlier volume of the same title.

189 **Buck, Gertrude.** Recent tendencies in the teaching of English composition. (Educ. rev. Nov. 22 : 371–82.)

190 **Burns, J. J.** How to teach reading and composition. 160 p. D. Amer. book co., .50

191 **Carpenter, G. R.** Notes for teachers of English composition. 29 p. D. Macmillan, .25

"Full of practical wisdom and concentrated essence of experience. Unreservedly commended to teachers in elementary and secondary schools." Educ. rev.

192 **Clark, M. C.** Ethical and practical points in teaching English. (Educ. rev. May. 21 : 485–96.)

193 **Cook, A. S.** Teaching of English. (Atlantic, May. 87 : 710–22.)

194 **Copeland, C. T., and Rideout, H. M.** Freshman English and theme correcting. 124 p. D. Silver, Burdette, $1.

The Harvard system of daily themes is fully explained and its results set forth.

195 **Hale, E. E., jr.** The teaching of English in schools. (In Schoolmasters' association. Ninth annual report. p. 48–72.)

Application of logic to the study and teaching of English.

196 **Hitchcock, A. M.** The secondary-school teacher of English. (Educ. rev. Oct. 22 : 252–63.)

197 **Laing, M. E.** Reading; a manual for teachers. 167 p. D. Heath, .75 (Heath's ped. lib. v. 37.)

"This book aims to bring together, in a concise form, some of the most valuable and suggestive contributions of later educational thought to the teaching of reading. It discusses the psychology underlying the reading process and illustrates with practical examples." Preface.

198 **Matthews, Brander.** Suggestions for teachers of American literature. (Educ. rev. Jan. 21 : 11–16.)

Prepared to accompany his Introduction to American literature.

199 **Randall, A. S.** Function of mythology in the teaching of elementary English. (Educ. Nov. 22 : 166–76.)

200 **Shute, K. H.** Ideals in literature. (Jour. of ped. June. 13 : 371–84.)

One way of teaching literature to primary students.

201 **Vaile, E. O., and others.** Simplified spelling. (In N. E. A. Proc. p. 209–27.)

Discussion of the question: Shall a grant of $1000 per annum be made by the N. E. A. in the interests of spelling reform?

202 **Webster, W. F.** English: composition and literature. 275 p. D. Houghton, $1.50.

"A new and strong treatment of English as a high-school subject. An especially good book for teachers." Educ. rev.

203 **Wilkins, A. S.** The place of literature in education. (Jour. of educ. Lond. June. p. 395–98.)

375.84 *Modern languages*

204 **Jebb, Richard.** Ancient and modern humanism. (Jour. of educ. Lond. July. p. 433–36.)

A statement of some of the reasons for modern-language study.

205 **Price, T. R.** The new function of modern-language teaching. (In Mod. lang. assoc. Publications. 16 : 77–90.)

The revelation and appreciation of literary form.

375.88 *Classics*

206 **Bennett, C. E., and Bristol, G. P.** The teaching of Latin and Greek in the secondary school. 336 p. D. Longmans, $1.50.

Bibliography at the beginning of each chapter.

"Sane, scholarly, and exceedingly suggestive, tho often over dogmatic in statement." Dial.

"The most remarkable thing about this book is the plea that the chief advantage of Latin is gained for students of average ability . . . who do not go far enough in their study of it to read it readily enough to understand it without translation. Our own belief is the exact reverse." Ped. sem.

The book is reviewed at length by N. G. McCrea in Educ. rev. June.

207 **Bentley, R. C.** Latin in secondary schools. (Ped. sem. Sept. 8 : 395-411.)

Judicial discussion of the present status of Latin in secondary schools, with a summary of what the author considers the false arguments and assumptions thro which its predominance has been attained.

208 **Lodge, Gonzalez.** Imagination in the study of the classics. (Educ. rev. Sept. 22 : 162-79.)

Also in Schoolmasters' assoc. Ninth annual report. p. 28-44.

Pleads for more than the teaching of construction and memorizing in teaching Latin and Greek. Urges attention to the historical context and significance and study of the literary art in the form.

375.9 *History*

209 **Colvin, S. S.** History teaching in the first years of the high school. (Jour. of ped. Dec. 14 : 140-60.)

210 **Elson, H. W.** How to teach history. 64 p. S. Kellogg, .25

For the very youngest children. Great stress is laid upon mnemonics, diagrams, and devices for fixing facts.

211 **Essays** on the teaching of history. 104 p. D. Macmillan, .75

Essays by F. W. Maitland, R. M. Gwatkin, R. L. Poole, W. E. Heitland, W. Cunningham, J. R. Tanner, W. H. Woodward, C. H. K. Marten, and W. J. Ashley.

"A thin but weighty book, which abounds with useful suggestions." Nation.

212 **Hazard, Caroline.** Value of history in the formation of character. (In New England assoc. Official report. 16 : 55-67.)

213 **Mace, W. H.** Method of the last course in high school history. (Jour. of ped. Jan. 13 : 181-94).

214 **New England history teachers' association.** Register and reports of meetings for 1900. 42 p. O. Bost.

Contains report of the Committee on college entrance requirements and a paper on Practical ways of carrying out the new requirements.

215 **New England history teachers' association.** Report of the Committee of six on practical methods and courses, submitting plan of a syllabus for a four years' course in history for secondary schools. 95 p. D. Heath.

375.91 *Geography*

216 **Dodge, R. E., and Kirchwey, C. B.** The course in geography in the Horace Mann schools. (Teachers coll. rec. Mar. 2 : 61-164.)

Detailed outlines, for years three to eight inclusive, in the elementary grades, and of physical geography as an elective in the fourth year of the high school.

217 **Dryer, C. R.** The organization of geography. (Educ. rev. Jan. 21 : 26–38.)

218 **New England association of school superintendents.** Report on geography presented by a committee at meeting, Nov. 15, 1901. 66 p. O. Snow & Farnham, Providence.

Attempts to define the content of geography, its relation to other subjects of the curriculum, and the best methods of teaching it. A general syllabus of work for a few grades is followed by a short list of reference books.

219 **Redway, J. W.** The new basis of geography. 225 p. O. Macmillan, $1. (Teachers' professional library.)

Aims to set forth in a simple manner the relations between human activities and physical environment and so to give a broad, fundamental, and rational view of the content of geography and its educational value. The book is meant as a manual for the teacher's preparation rather than for classroom instruction. It is sensible, practical, attractive in style, and written by a man who is thoroly versed in both the science of education and geography.

376 EDUCATION OF WOMEN

220 **Dawson, William.** The higher education of women at McGill university. (In his Fifty years of work in Canada. Ballantyne, Hanson & Co. p. 231–63.)

221 **Fallows, A. K.** Working one's way through women's colleges. (Century July. 62 : 323–40.)

Entertaining and well illustrated.

222 **Gadesden, F.** Education of girls. (In Roberts, Educ. in the nineteenth century. Macmillan, $1. p. 82–105.)

In the public day schools of England since 1850.

223 **Hersey, H. E.** To girls; a budget of letters. 247 p. S. Small, Maynard, $1.

First eighty pages are about education.

224 **Maddison, Isabel,** *compiler*. Handbook of British, continental, and Canadian universities, with special mention of the courses open to women; supplement for 1901. 70 p. O. Bryn Mawr College, .75

225 **Münsterberg, Hugo.** The American woman. (Internat. mo. June. 3 : 607–33.)

Discusses the effect on our national life of the "higher educated" woman. Also appears in his American traits. p. 128–72.

226 **Palmer, A. F.** The higher education of women. (In The nineteenth century. Putnam, $2. p. 301–11.)

Devoted chiefly to growth of American colleges.

227 **Parrish, C. S.** Shall the higher education of women be the same as that of men? (Educ. rev. Nov. 22 : 383–96.)

Argument: As women are the mothers and home-makers their education may be shaped wisely for these specific ends. In short, they should, like men, specialize for their life work.

228 **Thomas, M. C.** The college women of the present and future. 6 p. O. Author, n. p.

Reprint of an article published by McClure's syndicate. President Thomas reasons and prophesies, with clearness and brilliancy.

229 ——— Should the higher education of women differ from that of men? (Educ. rev. Jan. 21 : 1–10.)

Also in Assoc. of colleges, etc., of the middle states, etc. Proceedings. p. 10–20. Argument that it should not, by the President of Bryn Mawr college.

230 **Thwing, C. F.** Should woman's education differ from man's? (Forum Feb. 30 : 728–36.)

No; except as the education of one person should differ from that of every other person. Also in Assoc. of colleges, etc., of the middle states, etc. Proceedings. p. 32-45.

"Education of women" was a leading topic at the 10th annual meeting of the Southern educational association and several brief papers are printed in the report.

377 RELIGIOUS AND ETHICAL INSTRUCTION

231 **Hall, G. S.** Some fundamental principles of Sunday-school and Bible teaching. (Ped. sem. Dec. 8 : 439–68.)

Seeks especially to bring to bear on this field the known laws concerning adolescence.

378 HIGHER EDUCATION: COLLEGES AND UNIVERSITIES.

See also 379.16 for national university and 379.17 for much matter on the relations between secondary and higher education.

See also No. 224.

232 **Babbitt, E. H.** Problems of the small college in the southern states. (In Assoc. of colleges, etc., of the southern states. Proc. p. 56–70).

233 **Briggs, L. B. R.** School, college, and character. 148 p. D. Houghton, $1.

Five fresh, graceful, and pointed essays, the fruit of the author's experience as dean of Harvard college. All but one are reprinted from the Atlantic monthly and have been separately noted under exact subject in other parts of this bibliography.

234 **Hadley, A. T.** Higher education and the public welfare. (In his Education of the Amer. citizen. Scribner, $1.50. p. 150–60.)

Justifying, before the Connecticut state board of agriculture, a thoro culture training.

235 **Horwill, H. W.** The monastic danger in higher education. (Forum Oct. 32 : 244–54.

236 ——— Opportunity of the small college. (Atlantic June. 87 : 763–71.

It should concentrate, deepen, and intensify its work, mainly along lines of the humanities, and stop trying to expand into a little university or industrial school.

237 **Jones, R. E.** Is the college graduate impracticable? (Forum Jan. 30 : 583–94.)

Speaks to Mr. C. P. Huntington's charge that he is, and while admitting bad tendencies and influences in some phases of college life, suggests points for correction which, if heeded, should make the charge reflect on the student and not the college.

238 **Millar, A. C.** Twentieth century educational problems. 227 p. D. Hinds, $1.

The president of Hendrix college treats briefly and pungently thirteen topics grouped closely round the status, functions, and interrelations of college and university.

239 **Ranck, S. H.** Alumni representation in college government. (Educ. Oct. 22 : 107–13.)

240 **A shorter** college course. (Jour of ped. Jan. 13 : 210–26.)

Discussion opposing the three-year college course, by H. N. Fowler and G. F. Jewett.

241 **Thilly, Frank.** What is a university? (Educ. rev. Dec. 22 : 498–506.)

378.01 *College entrance requirements*

See also No. 90 and No. 164.

242 **Butler, N. M.**, Secy. First annual report of the College entrance examination board of the middle states and Maryland. (Educ. rev. Oct. 22 : 264–96.)

243 **College** entrance requirements. (In Assoc. of collegiate alumnæ. Publications Feb. p. 23–63.)

Symposium by M. C. Thomas, E. M. Perkins, and M. F. Washburn.

The papers discuss the N. E. A. report on Uniform college entrance requirements. President Thomas argues against President Eliot's comprehensive use of electives.

244 **New England association of colleges and preparatory schools.** Committee on admission examinations. Report. (In New England assoc. Official report. 16 : 3–5.)

Followed by discussion. p. 5–54.

245 **Scott, F. M.** College entrance requirements in English. (School rev. June. 9 : 365–78.)

378.13 *University extension*

246 **American society for the extension of university teaching.** Ten years' report, 1890–1900. 44 p. O. Phil.

247 **Powell, L. P.** Ten years of university extension. (Atlantic Sept. 88 : 393–403.)

Dwells especially on the crucial difficulty of getting good lecturers and how it has been met.

378.2 *Academic degrees*

248 **Hall, E. H.** College work and the A. B. in three years. (Harv. grad. mag. Mar. 9 : 330–37.)

An argument against a three-year college course, based on a questionnaire among ninety-three Harvard students from each of the four classes.

249 **Hart, A. B.** Actualities of the three-year A. B. degree. (Harv. grad. mag. Dec. 10 : 201–07.)

How degrees are got in three years at Harvard.

250 **Magie, W. F.** The examination for the degree of Ph. D. (Educ. rev. June. 22 : 18–25.)

Attempts to state what the degree should stand for, what the examination should aim at; compares such examinations in this country and in Germany.

Europe

251 **Story, D.** Universities of Europe. (Munsey Oct. 26 : 54–68.)

Great Britain

252 **Campbell, Lewis.** On the nationalization of the old English universities. 318 p. O. Chapman, 7/6

"His main purpose is to show how in the course of the nineteenth century, and more particularly in the latter half of it, the old English universities have once again become, in the widest and largest sense of the term, "national institutions." J. A. R. Marriott in Fortn. rev. Sept.

253 **Hibben, J. G.** The Scottish university. (Scrib. June. 29 : 741–55.)

254 **Marriott, J. A. R.** University reform in the Victorian era. (Fortn. rev. Sept. 70 : 482–96.)

255 **Morris, W. O.** The Irish University commission and university education in Ireland. (Fortn. rev. Sept. 70 : 445–58.)

256 *Cambridge.* **Mullinger, J. B.** St. John's College, Cambridge. 346 p. O. Robinson, 5/ net. (College histories.)

"We have little . . . but unmodified praise for the . . . volume." Athenæum.

257 *Glasgow.* **Glasgow university.** Book of the jubilee, 1451–1901. 226 p. O. Maclehose, 5/ net

258 *Oxford.* **Aston, J.** Sketches of Christ Church, Oxford. Q. Methuen, 3/6

259 ———. **Glasgow, E.** Sketches of Magdalen college, Oxford. O. Dent, 5/ net.

260 ———. **Green, J. R.** Oxford studies. 334 p. O. Macmillan, 5/. (Eversley ser.)

261 ———. **Rashdall, H., and Rait, R. S.** New college, Oxford. 272 p. O. Robinson, 5/ net. (College histories.)

United States

262 **Association of American universities.** Journal of proceedings of First and second annual conferences, 1900–01. 50 p. O. Association.

263 **Baldwin, S. E.** Encroachment of the American college upon the field of the university. (Internat. mo. June. 3 : 634–47.)

Caused by the encroachment of the high school on the first two years of the college course and by the attempt of the college to do too much.

264 **Carter, Franklin.** The century's growth in higher education. (In The nineteenth century. Putnam, $2. p. 285–300.)

In the U. S. only.

265 **The case** of Prof. Ross. (Science Mar. 8. 13 : 361–70.)

Prints the reports of the committees of the Stanford alumni, and of the American economic association.

266 **Clarke, F. W.** The evolution of the American university. (Forum Sept. 32 : 94–104.)

267 **Germann, G. B.** Graduate courses in science. (Science Sept. 13. 14 : 413–20.)

A list of graduate courses in pure science offered during the academic year 1901–02, by the Universities of Chicago, Pennsylvania, Yale, Harvard, Cornell, Columbia, and Johns Hopkins.

268 **Hadley, A. T.** The direction of the American university development. (In his Education of the Amer. citizen. Scribner, $1.50. p. 161–74.)

Address at Vanderbilt university.

269 **Hyde, W. D.** Academic freedom in America. (Internat. mo. July. 4 : 1–20.)

Considers the rights of donors, the State, the trustees, the faculty, the students, and the constituency of a college to say what shall be taught in it.

270 **Jesse, R. H.** Function of the state university. (In N. E. A. Proc. p. 606–13.)

271 **Münsterberg, Hugo.** Productive scholarship in America. (Atlantic May. 87 : 615–31.)

The thesis is that the results of American scholarship "stand in no proper relation to the achievements of American culture in all other aspects of national life." The lack of thoroness, inferior educational ideals, and the dominating commercial spirit in American education, come in for some sound, sharp, and well-presented criticism. The article is reprinted in the authors American traits on p. 81–127.

272 **Reid, Whitelaw.** University tendencies in America. 20 p. Q. New York.

An address at Leland Stanford, Jr., university, April 19, 1901. A strong, thoughtful plea for that education which may be measured by its cultural results rather than by its degree-producing power. For college work which makes life, before that which makes a living.

273 **Thwing, C. F.** The small college and the large. (Forum Nov. 32 : 319–27.)

274 **Warfield, E. D.** Expansion of our great universities. (Munsey Aug. 25 : 693–707.)

275 **Will, T. E.** A menace to freedom ; the college trust. (Arena Sept. 26 : 244–57.)

An effort to prove that plutocracy, thru donors to and trustees of American colleges, is more and more dictating the teaching in them.

276 *Hiram college.* **Green, F. M.** Hiram college, and Western reserve eclectic institute, 1850–1900. 425 p. D. O. S. Hubbell Ptg. Co., Cleveland, $1.50

A piece of sober historical work by one intimately acquainted with the college for fifty years. The chapters of greatest interest are naturally those dealing with the Hinsdale and Garfield administrations.

277 *Shurtleff college.* **De Blois, A. K.** The pioneer school ; a history of Shurtleff college. 356 p. D. Revell, $1.50

278 *Yale university.* **Hadley, A. T.** Yale problems, past and present. (In his Education of the Amer. citizen. Scribner, $1.50. p. 210–31.

Inaugural address.

379 PUBLIC SECONDARY EDUCATION. THE STATE AND EDUCATION

279 **Brown, E. E.** Present tendencies in secondary education. (School rev. Sept.–Oct. 9 : 446–58 ; 498–515.)

280 **McDevitt, P. R.** The "grievous school question" again discussed. (Cath. world Sept. 73 : 695–708.)

Protest against municipalizing the Roman Catholic parish schools.

281 **Taylor, H. L.** Secondary education at the Paris exposition of 1900. (School rev. Jan.–May. 9 : 1–21 ; 269–85.)

379.1 *American public school system*

See also No. 51.

282 **Anderson, G. W.** Politics and the public schools. (Atlantic Apr. 87 : 433–47.)

Illustrates points made by Boston facts, conditions, and figures.

283 **Andrews, E. B.** False and true in criticism of public school work. (Educ. rev. Mar. 21 : 258–70.)

284 **Boies, H. M.** The education of children in public schools. (In his Science of penology. Putnam, $3.50. p. 355–91.)

A discussion of the worth and efficacy, for restriction and prevention of crime, of a system of public education. Notes some reasons why our national education fails in this direction and suggests correctives.

285 **Harris, W. T.** Recent growth of public high schools in the U. S. as affecting the attendance of colleges. (In N. E. A. Proc. p. 174–81.)

286 **Mowry, W. A.** The first American public school. (Educ. May. 21 : 535–48.)

Established at Dorchester, Mass., in 1639.

287 **The people** and the schools; papers and discussions at the 10th annual meeting of the Harvard teachers' association. (Educ. rev. May. 21 : 433–84.)

The double question, What do the people want the schools to do and are the schools doing it? is discussed by John Dewey, K. H. Shute, W. B. Jacobs, and S. M. Crothers.

379.15 *School supervision*
City schools

The latest comprehensive statistics of city schools in the United States are always found in volume 2 of the Report of the Commissioner of Education.

288 **Gay, G. E.** School organization in small cities. (Educ. Apr. 21 : 451–58.)

Suggestion for personnel, duties, and powers of a school board in cities of about 20,000 people.

289 **Prince, J. T.** The evolution of school supervision. (Educ. rev. Sept. 22 : 148–61.)

In Massachusetts, 1647 to date.

290 *Philadelphia.* **Edmonds, F. S.** History of the central high school of Philadelphia. Lippincott, $2

291 *San Francisco.* **Cubberley, E. P.** The school situation in San Francisco. (Educ. rev. April. 21 : 364–81.)

A brief historical sketch prefaces a detailed impartial account of the strenuous times of the last three years.

Rural schools

292 **Bonebrake, L. D.** Centralization of rural schools. (In N. E. A. Proc. 804–11.)

The author is school commissioner in Ohio, and he illustrates by rural-school history in that state.

379.16 *National university*

293 **Hoyt, J. W.** The proposed national university. (Science Oct. 4. 14 : 505–17.)

A review of C. D. Walcott's paper in same journal for June 28. Mr. Hoyt is a jealous advocate for an actual teaching university.

294 **National education association**—Committee on a national university. Report at Detroit meeting. (In N. E. A. Proc. 457–74.)

The Report is adverse to the establishment of a statutory national university and was not received with favor by the Council.

295 **Walcott, C. D.** Relations of the general government to higher education and research. (Science June 28. 13 : 1001–15.)

Answered by Mr. Hoyt; see above.

379.17 *Secondary schools*

See also 370.97 ; 379.73.

296 **Hall, G. S.** How far is the present high school and early college training adapted to the nature and needs of adolescents? (New England assoc. Official report. 16 : 72–88.)

Discussion, opened by President Eliot. p. 88–104.

297 **Sadler, M. E.** Inspection and examination of secondary schools. (Educ. rev. May. 21 : 497–515.)

298 **Thurber, C. H.** The principles of school organization ; a comparative study; chiefly based on the systems of the U. S., England, Germany, and France. (Ped. sem. Sept. 8 : 351–94.)

Part of a doctor's thesis offered at Clark university. The merits of centralization and decentralization are discussed and the articulation of secondary with higher education.

Australia

299 **Great Britain—Board of education.** Educational systems of Australia. (In Special reports on educational subjects. 5 : 211–625.)

This is by no means the ordinary "Blue book" information, but six monographs (covering each of the states in the Federation) by educational experts.

Cape Colony

300 **Great Britain—Board of education.** History and present state of education in Cape Colony. (In Special reports on educational subjects. 5 : 3–195.)

Canada

301 **Great Britain—Board of education.** Educational systems of the chief colonies of the British empire ; Canada ; Newfoundland ; West Indies. 834 p. O. Eyre & Spottiswoode, 4/6.

This is volume 4 of the important series of reports edited by Mr. M. E. Sadler. It is chiefly a careful account, drawn from trustworthy sources, of educational systems as they exist to-day, and not a history of their origin and growth. Each of the 9 Canadian provinces is treated in a separate chapter, and, with the exception of the 140 pages on Ontario, each of these chapters presents probably the best résumé of its subject now in print. The chapter on Ontario makes no reference to Mr. Ross' admirable book, and does not supersede it except as to later statistics.

379.42 *Great Britain*

Great Britain publishes many valuable documents on education at home and in the colonies. List may be had on application to Eyre & Spottiswoode, Lond.

The great "public schools" for boys are under 373.42.

302 **Brereton, C. S. H.** Educational crisis in England. (In N. E. A. Proc. p. 151–65.) Also in Educ. rev. Nov.

303 **Coulton, G. G.** Public schools and the public needs : suggestions for the reform of : on teaching methods in the light of modern requirements. 334 p. O. Simpkin, 5/net.

304 **The** education bill. (Jour. of educ., Lond., June. p. 369-73.

A symposium of expert criticism and opinion of the Board of education bills pending in Parliament. No. 1, of most merit, was later withdrawn. No. 2, a rather colorless and somewhat unsatisfactory substitute, passed.

305 **Education** in Great Britain and Ireland. (In U. S.—Education Comm'r of. Report, 1899-1900. 1 : 1167-1244).

Includes full account of present status of the English system of elementary education.

306 **Fitch, J. G.** Educational progress in England. (Educ. rev. Apr. 21 : 325-39.)

Progress of the last three years in national elementary and secondary education, the registration of teachers, and the reconstruction of the University of London.

307 **Jebb, Richard.** The education bill of 1902. (Jour. of educ., Lond., Dec. p. 771-74.

What should it be? A presentation of five or six leading topics which should be covered by the new bill. They are chiefly concerned with Local authorities for administration and the taxing power.

308 **Sadler, M. E.** National education and social ideals. (In Roberts. Educ. in the nineteenth century. Macmillan, $1. p. 210-39.)

A strong statement of what national education should be and do in England follows a rather despairingly droll description of how long and hard they have been trying to do it.

309 **Scott, R. P.** Secondary education legislation. (In Roberts. Educ. in the nineteenth century. Macmillan, $1. p. 59-81.)

Brief survey of the gradual steps, as shown by public laws, by which Secondary education has won its place in England as a great public trust.

France

310 **Education** in France. (In U. S.—Education, Comm'r of. Report 1899-1900. 2 : 1711-32.)

The usual annual chronicle. The condition and progress of the universities under the law of 1896 is especially noticed.

311 **Hardy, E. L.** The lycées of France. (School rev. Sept. 9 : 459-75.)

Deals with some aspects of the discipline and administration of these schools.

312 **Taylor, H. L.** Education at the Paris exposition. (School rev. Mar. 9 : 201-31.)

Describes the French exhibit.

Germany

313 **Bruncken, Ernest.** The German gymnasium; as seen from a pupil's standpoint. (Educ. rev. Feb. 21 : 163-73.)

314 **Education** in central Europe. (In U. S.—Education, Comm'r of. Report, 1899-1900. 1 : 721-894.)

Contents:

1. Popular education and national economic development.
2. Statistics of education in central Europe.
3. Appropriations for education in Europe.
4. The schools of Berlin.
5. Expenditures for higher education.
6. Children's claim upon childhood.
7. Medical inspection of schools.
8. Secondary education as viewed by scientists.

9. The German commercial clerk.
10. Statistics of the Swiss school system.
11. Defective children of school age.
12. German schools in foreign countries.
13. Attendance in higher institutions.
14. Commercial schools in Hungary.
15. Corporal punishment in Prussia.
16. Baroness von Bülow and her kindergarten work.

315 **Rein, Wilhelm.** Outlines of the development of educational ideas [in Germany] during the nineteenth century. (In Roberts. Educ. in the nineteenth century. Macmillan, $1. p. 240–74.)

India

316 **System** of public education in British India. (In U. S.—Education, Comm'r of. Report, 1899–1900. 1 : 1–43.)

Brief review of the results of the efforts of the English to found and maintain state schools in India since 1854.

Jamaica

317 **Great Britain—Board of education.** The system of education in Jamaica. (In Special reports on educational subjects. 4 : 575–749.)

A brief historical sketch since 1834 is followed by an account of the system as it was before the new code of 1900. Notes and evidence from the report of the Commission of 1898 which formed the new code are followed by the text of the code in 60 pages. An important report on a very small subject.

New Zealand

318 **Great Britain—Board of education.** System of education in New Zealand. (In Special reports on educational subjects. 5 : 625–766.)

Only a few pages are given to England's efforts at Maori education.

United States

Illinois

319 **Public** school legislation in Illinois. (Dial, Mar. 1. 30 : 129–31.)

Describes the most important school bills proposed to the legislature of 1901 : Appointing commission to revise and codify the school law ; Special comprehensive legislation for the Chicago schools; Teachers' pensions act.

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VII

REVIEWS

Pestalozzi and the foundation of the modern elementary school—By A. PINLOCHE. (The Great Educators.) New York: Charles Scribner's Sons, 1901. 306 p. $1.

The long-expected volume on Pestalozzi by Professor Pinloche comes as something of a disappointment. Part I, dealing with the life of the great Swiss educator, at no point improves on several lives already in English; and in many particulars it falls below the standard work by De Guimps, Krüsi, and Von Raumer (translated by Barnard). Indeed, it is a real relief to turn from the copious and labored extracts which make up Professor Pinloche's story to the chatty, personal, and delightful account by De Guimps. In the controverted chapters the author, it seems to me, has not maintained a conservative attitude; and, in the unfortunate Schmid-Krüsi-Niederer affair he is clearly at variance with most of the authoritative lives of Pestalozzi.

Part II, dealing with the writings and doctrines of the great reformer, is much the best piece of Professor Pinloche's work. His style always involved, he makes, nevertheless, a reasonably satisfactory exposition of the life-creed of his subject. Much less is made of education from a social point of view than most students of Pestalozzi think necessary for a just appreciation of the Swiss reformer's labors. The aim and theory of education are stated with reasonable force and clearness; and the passion of the philanthropist "who lived all his years like a beggar that he might teach beggars how to live like men" has adequate consideration under the captions "On the education of the lower classes" and "Private education and public education."

The elementary school, and all that pertains thereto, very properly gets the bulk of Part II; for, as Professor Pinloche clearly shows, this was the burden of Pestalozzi's song. There follows in the discussion of sense-perception in relation to nature study, geography, language, etc., a brief, but satisfactory, analysis of *How Gertrude teaches her children*—a work altogether too much neglected in the standard studies of Pestalozzi. The discussion of moral and religious education is brief, but to the point.

Part III is the most unsatisfactory section of the book. In too few pages, and in a manner that lacks altogether an appreciation of the subject, the author disposes of Pestalozzi's influence on Germany. But one looks in vain for any traces of real and profound influence. The long list of splendid names that meant so much for German schools during the period of reconstruction, after the battle of Jena, is passed over for the most part in silence. Karl Ritter, the great geographer, who says that he owed everything to Pestalozzi and the inspiration that came to him at Yverdon, is not even mentioned by name. Fully a dozen other young Germans whom Pestalozzi trained—men who later held educational posts of honor in Prussia, Saxony, and the other German states—are unmentioned. And in less than two pages Professor Pinloche disposes of Pestalozzi's influence on other countries! Russia, England, and the United States, which, after Germany and Switzerland, felt the influence of his labors and writings most profoundly, are not even mentioned. That profound pedagogical student Joseph Neef, who taught with Pestalozzi at Stanz and Burgdorf, and whom the reformer subsequently sent to Paris and later to the United States, is not mentioned in the book.

The biobliography is brief and not select, and few of the numerous English and American editions of Pestalozzi's works are cited, and of the numerous biographies and biographical sketches, in English, Barnard's translation of Von Raumer is the only one mentioned. Several standard French and German biographies are cited; but when one recalls that Professor Pinloche's book was prepared for American and English readers, these manifest oversights are without justification. The book has a good index, which, by the way, is a merit.

WILL S. MONROE

STATE NORMAL SCHOOL,
WESTFIELD, MASS.

The public school arithmetic for grammar grades, based on McLellan and Dewey's "Psychology of number"—By J. A. McLellan, A. M., LL. D., and A. F. Ames, A. B. New York: The Macmillan Company, 1902.

For the last fifteen years all sorts of books and manuals, as well as innumerable articles from newspapers, school-journals, and magazines have been written for the avowed purpose of improving arithmetical teaching in the schools of the United States. With such a profusion of literature emanating from diverse sources, it is not strange that conflicting opinions have been advanced and pushed with enthusiasm. So far, however, as the writer is aware, the *Psychology of number* never assumed gigantic proportions among educators till within the last few years. While it is true that Americans started in immediately after the close of the American Revolution to make arithmetics, and they have gone on with accelerated velocity ever since, yet they did not bother themselves much about the underlying philosophy of the science, but they kept the pupils working at arithmetical principles and problems till light, either obscure or clear, dawned in their minds.

It was assumed by our early schoolmasters and the people generally that the boy who could not learn arithmetic did not have sense enough to know his own father, and that such a one, in legal parlance, was properly called a "fool." However, the discovery was made and then announced that the time given to the subject of arithmetic did not produce expert arithmeticians. This statement is a sort of psychological joke, because the most expert arithmeticians in the world are Americans, and the most difficult arithmetics ever published, or ever ciphered thru, have been used and are still used as text-books by many Americans boys and girls. Literally, we take to figures.

The book before me is planned along the lines indicated in the *Psychology of number,* and the keynote of the text is based upon these two negatives: "No number without measurement, no measurement without number." This statement is immediately followed by the two sentences: "This implies three factors in the number process—a whole to be measured, a unit of measure, and how many of the unit in the whole. The idea is nothing but an application to quantity of the fundamental principle common to all thinking." It might be pertinent to ask what the first negatives mean, and also a query may arise in the minds of some whether quantitative thinking is the only kind of thinking there is. The measuring unit, I am inclined to think, has not been found for all kinds of qualitative thinking, not to speak of counting sheep, cattle, ears of corn, and so on.

Putting aside the preface of this arithmetic, it does not appear that the book, as a work on arithmetic, is better than the average arithmetics that have been issued during the last ten years. The borrowed thought from Kant, tho put in another set of words, is his old unity, plurality, and totality business, dressed up for supplementary purposes.

The contrast between the authors' conception and that of a plain arithmetician will be apparent by observing the following definition; the first definition in each case being the one given by the authors, and the second, the common definition usually given for children to learn in the upper grammar grades: 1. (*a*) A unit is a quantity used to measure a quantity of the same kind. (*b*) A unit is one thing, or one. 2. (*a*) Addition may, therefore, be considered as the operation of finding the quantity, which, as a whole, is made up of two or more given quantities as its parts. (*b*) Addition is the process of uniting two or more like numbers into one equivalent number. 3. (*a*) Subtraction may, therefore, be defined as the operation of finding the part of a given quantity that remains when a given part has been taken from the quantity. (*b*) Subtraction is the process of finding the difference between two numbers of the same kind. 4. (*a*) Multiplication is the operation of finding the number of primary units in a quantity expressed by a given number of derived units, or more briefly, Multiplication is the operation of finding the product of two numbers. (*b*) Multiplication is taking one number as many times as there are units in another. Whether the pupil can understand the new definitions better than the old ones need not be discussed in this connection. They speak for themselves and forcefully enough. It should be remarked that the definitions in the last half of the book are not so stilted as those in the beginning.

The problems cover rather an extensive range of topics, and about one-half fit into the mental scheme outlined by the authors. Taken as a collection thruout, they are on a level with those in Moore's *Grammar school arithmetic*—no better, perhaps no worse. A large number of the exercise problems may be classed as "straight arithmetic."

The book as a whole is scrappy, introducing a little of a subject here, using perhaps a term or two, and further on, it may be, the subject is taken up with some additional explanations. As compared with Kirk and Sabin's *Oral arithmetic,* in which one number is compared with another, the book is of a much weaker order. The idea of making arithmetic an information study, as outlined by Pliny E. Chase and Horace Mann some fifty years ago, has not been so well done in the present instance as by the original workers. Yet the book contains some strong chapters, especially the "Miscellaneous exercises" and the "Appendix." The chapter on mensuration is also good, but there is no valid reason why it should not have been introduced earlier. Why square root should have been placed near the beginning of the book, and the chief exercises 190 pages further on, even tho the footnote speaks of an alternative, is one of the peculiarities of the arrangement. The book would be just as strong with a less pretentious title, and the straining for effect would have been avoided. The title, no doubt, caused the book to be published—certainly not its contents, definitions, illustrations, principles, or arrangement of subject-matter. It is a good book for a teacher to have on his desk as an excellent illustration of how the human mind, under certain restrictions, works when trying to make a very simple subject very psychological. It is not constructed out of that kind of philosophy that teaches one how to live, or how to die, "like a gentleman."

J. M. GREENWOOD

SUPERINTENDENT OF SCHOOLS,
KANSAS CITY, MO.

VIII

NOTES AND NEWS

Judicial Control of Colleges

During the discussion of President Draper's paper, printed in this issue of the REVIEW, the fact was brought out that the Supreme Court of Ohio had recently voided the charter of a college for misuse of its corporate powers. We take pleasure in reproducing the essential part of the court's decision as a contribution to the history of American education of unusual significance and hopefulness. If this precedent is followed, the day of the fiat college is nearly over:

THE STATE OF OHIO *ex rel.* THE ATTORNEY GENERAL *vs.* THE MT. HOPE COLLEGE COMPANY

Trustees of educational institution—Sign diplomas in blank—Officer sells them and confers degrees—Dissolution of corporation required.

When the trustees of an educational institution, incorporated under the laws of this State, sign diplomas in blank and leave them within the control of one of its officers who sells them, and thus confers degrees without regard to merit, there is such a misuse of the power conferred as requires the dissolution of the corporation.

(Decided November 13, 1900.)

IN QUO WARRANTO:

The attorney general filed a petition to oust the defendant of its franchise upon the ground now insisted upon that such franchise has been abused and misused. The grounds specified in the petition are sufficiently indicated in the following abstract of the report of Robert H. Day, Esq., to whom the cause was referred, after issue joined for the purpose of taking and reporting the testimony with his findings of fact and conclusion of law: That report condensed shows that the defendant was incorporated as a corporation for profit on the 23d day of January, 1893, for the general purposes, as alleged in its certificate of incorporation, of promoting education, religion, morality, *et cetera.* Shortly after its incorporation it proceeded to conduct a college called Mt. Hope College, at Rogers, in Columbiana County, employing for that purpose teachers, and receiving and graduating students; that on or about the 11th day of December, 1897, it entered into a contract with one A. A. Galbreath by which it leased the college to him for a term of five years for an annual rental of one hundred and eighty dollars, the property to be used for school purposes, to be conducted under the management of said Galbreath as president, he to receive all incomes from tuitions and diplomas and to pay all expenses of the operation of the college. Under said contract said Galbreath conducted the institution up to the filing of this suit, maintaining a number of departments at least in name, that it included a "Home Study Department" which was conducted as follows: Pupils who could not arrange to pursue their studies as residents of Rogers were invited to matriculate in the institution and send by letter to the principal a statement of what studies they had pursued and what degree they desired; in reply to which the student was given a grade and informed as to the amount of work necessary to secure his degree, together with the necessary fees which should be paid before the diploma was granted and the degree conferred. The post-graduate course was conducted largely in the same way; a list of studies was submitted to the applicant and he notified the principal of those which he had pursued, what grades, if any, he had from another school or college, upon consideration of which the defendant would confer upon him such degree as the applicant desired, upon the payment of fees and the performance of certain conditions. If the applicant had attended a school whose standard warranted it, a degree would be conferred without further requirement by the defendant except the occasional writing of a thesis or digesting of a book. No records were kept of the operation of the college since April, 1898, by the trustees or the faculty, of the students attending the college, nor of their classification, standing, or work in said college, nor of the degrees conferred, except as the same were kept in a private ledger in the control of said Galbreath. Prior to that date occasional records had been kept. The board of trustees did not authorize nor organize the so-called "Home Study Department" established by Galbreath, but did sign diplomas with full knowledge that they were to be used in such department. They knew of its existence from the catalog and from a publication called *The Mt. Hope Anchor*. The records of the board of trustees do not show that any curriculum was ever adopted. Students were admitted to all departments of the college as applicants for degrees upon their own statement as to the studies which they had pursued, and sometimes upon the grades received from other schools, but nowhere does it appear that any entrance examination was ever required. The diplomas were granted and degrees conferred in the "Home Study Department" upon examination of the applicant by examiners appointed at or near the home of the applicant. In the post-graduate course degrees were conferred without examination, but upon the preparation of a digest of some book or the writing of a thesis, and in some instances in both departments the applicant received his degree upon the payment of fees and a promise to do work in the future. Such diplomas were signed and degrees conferred by the board of trustees upon the verbal request of Galbreath, and sometimes such diplomas were signed in blank to be afterwards filled out. No grade or statement of the standing of the applicant or his accomplishments was submitted to the trustees, nor was there any vote or record of any faculty proceedings communicated to the board. That one Chester Ralston, who had secured from Oberlin College the degree of M. A., asked the requirements of

Mount Hope College for the degree of Ph. D. In response to which Galbreath replied, under date of September 9, 1898, that he would confer the degree of Ph. D., upon the following conditions: First, that the applicant write a thesis on some subject to be selected by himself, and to contain at least ten thousand words. Second, that he mail his photograph, from which a cut was to be made for use in the college paper. Third, that he send his biography for publication. Fourth, that he send a list of names and addresses to whom should be sent sample copies of the journal containing his biography and announcement of his graduation from said college. Fifth, that he pay a matriculation fee of $5, a fee of $5 when his thesis was ready for examination; a fee of $5 when he sent his biography and picture; a fee of $5 with the list of names to whom should be sent a catalog of the publications in question, and lastly a fee of $5 when his diploma was ordered; making a total of $25. Should he desire, the further offer was made, that his diploma and degree could be secured at once by payment of the fees in advance, and upon the condition that he would comply with the terms stated within six months from date. Said Ralston did not accept the said proposition. On November 12, 1899, said A. A. Galbreath, as president of the Mt. Hope College, received from Thomas Erskin Wilson, $25 in full payment of fees for post-graduate course leading to a degree of A. M.; said degree was conferred forthwith upon condition that the applicant perform the work for such degree, within six months. That other colleges of the State of Ohio, composing the Ohio College Association, require an entrance examination or the certificate of an approved high school, or its equivalent, in special preparatory training, before allowing a student to enter as an applicant for a baccalaureate degree, and then require four years' study, the last year of which must be spent at the school conferring the degree and the rest at some school of recognized standing, or show a fitness by examination to be admitted to the senior year's work; that the master's degree is conferred by not less than one and in some cases two years' work after receiving the baccalaureate degree, and some colleges require at least one year's work, and in certain colleges all must be resident work. That every college should have enough apparatus to do two years' scientific laboratory work in order to properly teach the sciences. That degrees are conferred by a formal vote of the board of trustees upon the formal recommendation of the faculty, certifying to the accomplishment of the student and to his merit and as deserving such degree; all of such proceedings are duly made matter of record by both faculty and board of trustees, which are separate and distinct organizations. That a list of students in attendance at college should be kept, also their classification and grading in order to properly determine their qualification as applicants for degrees, and that all work leading to a degree should be completed before the same is conferred. It further appears that the defendant admitted with great freedom as candidates for the degrees all those who claimed to have special fitness and standing, without subjecting them to any examination, granting diplomas and conferring degrees without any test of the scholarship and sometimes upon the promise that the degree should be earned by future work.

As his conclusion of law the master reports that the defendant should be ousted of its right to be a corporation.

A public calamity

At a time when the people of the United States are straining every nerve to carry educational light into the dark places and when every man of capacity and experience is needed at his post, news comes that the Republican politicians in Chicago have refused a renomination to Orville T. Bright, county superintendent of schools for Cook County. In his stead Dr. A. F. Nightingale has been named. Dr. Nightingale did not seek the place and, if elected, will make a zealous and efficient public officer; but the displacement of Mr. Bright is none the less deplorable. For nearly ten years Mr. Bright has been the most conspicuous and distinguished county superintendent in the country. He has given lavishly of his strength and his leisure to the cause to which he has dedicated his life. Morally fearless and intellectually incorruptible, he has stood in the forefront of many a hard fight for principle and for progress. When Colonel Parker was attacked in the Cook County normal school by reactionaries and politicians, Mr. Bright led the defense. When the ejection of Albert G. Lane was attempted, Mr. Bright was tireless and resourceful in his behalf. Not Cook County and Illinois alone, but many States and countless gatherings of teachers have heard his voice pleading for better things and have felt his influence in bringing them about. That he should not be returned to his old post is a public calamity, but it cannot be that he will be lost to public education.

This experience illustrates the folly of choosing county superintendents of schools on party tickets by popular vote. The cities, excepting only Buffalo and San Francisco, have rid themselves of so vicious a system, but in the counties it is well-nigh universal. A county superintendent should be a professional expert, chosen by a responsible board or elected officer, and kept in service while efficient, without regard to his politics or his religion. The farther away from the ballot-box that we get teachers or superintendents, the better it will be for the American people and their schools.

More politics If the Kansas City papers are to be believed, Superintendent Wolfe of Kansas City, Kan., well known thruout the middle West, has failed of re-election because he was a "Missouri Democrat." Some two hundred prominent Republicans, men and women both, protested before the school board, but some picayune local Democratic office-holder had been guilty of displacing Republicans, and reprisals were in order. Superintendent Wolfe's term being about to expire, he was the first victim. This opera-bouffe way of conducting public affairs, particularly school affairs, will make odd reading when its history comes to be written by one adequately endowed with both humor and indignation. We suppose that the world would come to an end if Dr. Nightingale were to address a spirited declination to the Cook County Republican convention and arraign them for not continuing Mr. Bright, or if Principal Pearson were to tell the Kansas City (Kan.) school board that he preferred his principalship to a superintendency made vacant by party politics, but partisan politics will never be driven out of the schools until professional spirit rises high enough to overwhelm it in just such ways.

Professor Meiklejohn One of the earliest university professors of education passed away when J. M. D. Meiklejohn died on April 5. Mr. Meiklejohn, who was in his seventy-second year, had long been professor of education in the University of St. Andrews, having assumed the post on its foundation in 1876. Early in life he translated Kant's *Kritik der reinen Vernunft,* and later he produced a very popular and widely-used series of school text-books.

The southern Education conference The meeting of the fifth annual conference under the auspices of the Southern Education Board, April 24-26, at Athens, Ga., was an event of national significance. The movement for the promotion of education in the South, in which the Southern Board is engaged, was briefly described in this REVIEW last month by Mr. Robert C. Ogden, chairman of the board, in an address to the Harvard Teachers' Association; but he naturally refrained from expressing an estimate of the value of the work in which he is himself so profoundly interested and so energetically engaged. The magnitude and importance of this movement, its patriotic and disinterested character, the unusually high quality of the men who take part in it, the good sense displayed by them in handling the many delicate problems involved in a propaganda of educational enlightenment and reform, and the magnificent success which has already attended their efforts—all this make this movement one of the most significant undertakings of our time.

The conference was attended by representatives of all parts of the South and by a party of Northern delegates who were the guests of Mr. Ogden, coming to the Conference in a splendidly equipped special train provided by him for the purpose. Stirring addresses were made by Hamilton W. Mabie, Dr. Albert Shaw, Dr. Felix Adler, William H. Baldwin, Jr., of New York; H. H. Hanna of Indianapolis, H. St. G. Tucker of Virginia, by Judge Emory Speer, and Hoke Smith of Georgia, and by President Alderman of Tulane University—to mention only a few of the speakers who contributed to make the occasion one of the memorable experiences of everyone of the great mass of people who were present. The keynote of the meeting was struck by Mr. Ogden in the first session on Thursday evening, when in his annual report, as chairman, he said, in effect, that the Southern Board had a very simple faith, its creed consisting of a single article—that every child born of woman is entitled to a free elementary education and an eight-months' term of school in every year, taught by a competent teacher. This simple statement conveys no idea, however, of the enthusiasm with which it was received; and to appreciate this enthusiasm and the advance in educational sentiment which it marks, one must remember the great prevalence of illiteracy among both whites and blacks, the disinclination of the people to tax themselves locally for the support of schools, which has hitherto prevailed, and the two or three months' term of school so prevalent thruout the South; together with the conviction, born of experience, that the faith so simply and tersely expressed was a living faith—a faith that had already brought forth works abundantly, and was destined to accomplish still more. The principle was repeatedly affirmed during the sessions, and always warmly applauded, that the old issues between the two sections of the country are dead; that a joint responsibility rests on all Americans to promote the development of intelligent, trustworthy, useful, and progressive citizens thru the education of all the people. So marked is the progress of this principle that the Governors of two leading States, Governor Montague of Virginia and Governor Aycock of North Carolina, have declared themselves warmly attached to it, and have pledged themselves to its application in practice. No doubt there is still much opposition to the realization of all that this principle implies; but with such leaders as these two prominent Governors, and Alderman of Louisiana, Dabney of Tennessee, McIver of North Carolina, and the other men who are working with and for the Southern Education Board, there is every reason to believe in the steady and rapid progress of education for "all the children of all the people" thruout the entire South.

The Conference was memorable, therefore, not only for the successful educational campaign, of which it was the expression, but also for the progress which the Southern Board has made in promoting the return of mutual confidence, good will, and co-operation between the North and the South. Nothing has occurred since the Civil War that is destined to exercise so mighty an influence in reuniting the hearts and hands of thinking people North and South as this campaign of education, which enlists in the service of a common cause the best minds of both sections. The whole movement is full of promise.

Happily, the means to render effective all this stimulus to an educational awakening are not wanting. The general Education Board, organized in New York within the last few months, works in close sympathy and complete co-operation with the Southern Board. Its funds are dispensed to needy communities and institutions thruout the South on the basis of self-help. Their gifts of scholarships and other aids to the Georgia State Normal School, aggregating $19,500, on condition that similar scholarships and other funds be provided by the State, and their other gifts to communities that have taxed themselves for the support of schools, show that the whole movement is not merely a propaganda for the awakening of educational sentiment, but involves also a practical realization of the good to which that sentiment points. The general board has something over a million dollars to spend for this purpose; but, as Mr. Ogden said in the address already referred to, a million dollars is only a beginning. A hundred millions are needed, and will be spent before the object in view is attained.

No more welcome visitor has come to America in many a day than Mr. Michael E. Sadler, who arrived in New York on May 18 last. Mr. Sadler is well known to American students of education as the very life and soul of the new educational movement in England, combining, as he does, the ripe classical scholarship of an Oxford honor man with the zeal for social service which gives efficiency to culture. Mr. Sadler's nine great volumes, issued as Director of Special Inquiries and Reports for the Education Office in London, are on the shelves of serious students side by side with the Reports of the United States Commissioner of Education. His powerful essay on "The two-mindedness of England" is an exceptionally valuable study in social psychology.

Mr. Sadler was born in 1861 and received his education at Rugby and at Trinity College, Oxford. He distinguished himself thruout his career, and was president of the Oxford Union in 1882. From 1886 to 1895 he was steward and student of Christ Church. Mr. Sadler was a member of the Royal Commission on Secondary Education which sat in 1895 under the presidency of Mr. James Bryce.

It is hoped that Mr. Sadler's official duties will permit him to remain in this country long enough to attend the Minneapolis meeting of the National Educational Association.

The program of the general sessions of the meeting of the National Educational Association at Minneapolis, July 7-12, contains the following announcements, among others:

TUESDAY EVENING, JULY 8, Eight o'Clock.

1. Presidential Address—The Three H's in Education—WILLIAM M. BEARDHEAR, President of the State Agricultural College, Ames, Iowa.
2. Some Pressing Problems—NICHOLAS MURRAY BUTLER, President of Columbia University, New York city.

WEDNESDAY EVENING, JULY 9, Eight o'Clock.

1. The Library and the Laboratory; a Plea for Old-Fashioned Education—JOHN HENRY BARROWS, President of Oberlin College, Oberlin, Ohio.
2. Influence and Responsibility of the Teacher—Rt. Rev. JOHN IRELAND, Archbishop of St. Paul, St. Paul, Minn.

THURSDAY MORNING, JULY 10, Nine o'Clock.

1. The Education of the American Farmer—Hon. JAMES WILSON, U. S. Secretary of Agriculture, Washington, D. C.
2. Education in the Philippines—Dr. JACOB GOULD SCHURMAN, President of Cornell University, Ithaca, N. Y.

FRIDAY MORNING, JULY 11, Nine o'Clock.

1. How the School Strengthens the Individuality of the Pupil—Hon. WILLIAM T. HARRIS, Commissioner of Education of the United States, Washington, D. C.
2. The Simplification of English Spelling a Present Duty—CHARLES P. G. SCOTT, Etymological Editor of the *Century Dictionary*, Philadelphia, Pa.
3. The Spoken Word—THOMAS C. TRUEBLOOD, Professor of Elocution and Oratory, University of Michigan, Ann Arbor, Mich.

Discussion—CARROLL G. PEARSE, Superintendent of City Schools, Omaha, Neb.

FRIDAY EVENING, JULY 11, Eight o'Clock.

Address—JOHN H. FINLEY, Professor of Politics, Princeton University, Princeton, N. J.

Report of Committee on Resolutions.

Columbia University

In the City of New York

Columbia University includes both a college and a university in the strict sense of the words. The college is Columbia College, founded in 1754 as King's College. The university consists of the Faculties of Law, Medicine, Philosophy, Political Science, Pure Science, and Applied Science.

The point of contact between the college and the university is the senior year of the college, during which year students in the college pursue their studies, with the consent of the college faculty, under one or more of the faculties of the university.

Barnard College, a college for women, is financially a separate corporation; but, educationally, is a part of the system of Columbia University.

Teachers College, a professional school for teachers, is also, financially, a separate corporation; and also, educationally, a part of the system of Columbia University.

Each college and school is under the charge of its own faculty, except that the Schools of Mines, Chemistry, Engineering, and Architecture are all under the charge of the Faculty of Applied Science.

For the care and advancement of the general interests of the university educational system, as a whole, a Council has been established, which is representative of all the corporations concerned.

I. THE COLLEGES

Columbia College offers for men a course of four years, leading to the degree of Bachelor of Arts. Candidates for admission to the college must be at least fifteen years of age, and pass an examination on prescribed subjects, the particulars concerning which may be found in the annual Circular of Information.

Barnard College, founded in 1889, offers for women a course of four years, leading to the degree of Bachelor of Arts. Candidates for admission to the college must be at least fifteen years of age, and pass an examination on prescribed subjects, the particulars concerning which may be found in the annual Circular of Information.

II. THE UNIVERSITY

In a technical sense, the Faculties of Law, Medicine, Philosophy, Political Science, Pure Science, and Applied Science, taken together, constitute the university. These faculties offer advanced courses of study and investigation, respectively, in (*a*) private or municipal law, (*b*) medicine, (*c*) philosophy, philology, and letters, (*d*) history, economics, and public law, (*e*) mathematics and natural science, and (*f*) applied science. Courses of study under all of these faculties are open to members of the senior class in Columbia College. Certain courses under the non-professional faculties are open to women who have taken the first degree. These courses lead, through the Bachelor's degree, to the university degrees of Master of Arts and Doctor of Philosophy. The degree of Master of Laws is also conferred for advanced work in law done under the Faculties of Law and Political Science together.

III. THE PROFESSIONAL SCHOOLS

The Faculties of Law, Medicine, and Applied Science conduct respectively the professional schools of Law, Medicine, and Mines, Chemistry, Engineering, and Architecture, to which students are admitted as candidates for professional degrees on terms prescribed by the faculties concerned. The faculty of Teachers College conducts professional courses for teachers that lead to a diploma of the university.

1. The SCHOOL OF LAW, established in 1858, offers a course of three years, in the principles and practice of private and public law, leading to the degree of Bachelor of Laws.

2. The COLLEGE OF PHYSICIANS AND SURGEONS, founded in 1807, offers a course of four years, in the principles and practice of medicine and surgery, leading to the degree of Doctor of Medicine.

3. The SCHOOL OF MINES, established in 1864, offers courses of study, each of four years, leading to a professional degree, in mining, engineering, and in metallurgy.

4. The SCHOOLS OF CHEMISTRY, ENGINEERING, AND ARCHITECTURE, set off from the School of Mines in 1896, offer, respectively, courses of study, each of four years, leading to an appropriate professional degree, in analytical and applied chemistry, in civil, sanitary, electrical, and mechanical engineering; and in architecture.

5. TEACHERS COLLEGE, founded in 1888 and chartered in 1889, was included in the university in 1898. It offers the following course of study: (*a*) graduate courses leading to the Master's and Doctor's diplomas in the several departments of the College; (*b*) professional courses, each of two years, leading to the Bachelor's diploma for Secondary Teaching, Elementary Teaching, Kindergarten, Domestic Art, Domestic Science, Fine Arts, Music, and Manual Training; (*c*) a collegiate course of two years, which, if followed by a two-year professional course, leads to the degree of Bachelor of Science. Certain of its courses may be taken, without extra charge, by students of the university in partial fulfillment of the requirements for the degrees of Bachelor of Arts, Master of Arts, and Doctor of Philosophy.

NICHOLAS MURRAY BUTLER, LL. D.
President.

Columbia University

SUMMER SESSION, 1902

The third summer Session of Columbia University will open on Monday, July 7, 1902, and continue until Friday, August 15. The concluding examinations for those desiring to be credited at Columbia University, or elsewhere, with the courses attended and the work done toward degrees, diplomas, or teachers' licenses in New York City, will be held on Friday, August 15. Each course will consist of thirty lectures or other exercises, or their equivalent in laboratory or field work.

Instruction will be offered in Chemistry, Education, English, Geography, German, History, Latin, Manual Training, Mathematics, Philosophy, Physical Training, Physics, Psychology, and Romance Languages.

The Gymnasium and Swimming Pool will be open for the use of students.

Dormitory accommodations may be had in the immediate vicinity of the University.

THE ENTIRE EXPENSE OF THE SUMMER SESSION (2 COURSES), INCLUDING TUITION FEE AND BOARD AND LODGING, MAY READILY BE KEPT BELOW $80.

For announcement and more detailed information, address

NICHOLAS MURRAY BUTLER, Ph. D., LL. D., President,
Columbia University, New York

Massachusetts Institute of Technology, Boston

HENRY S. PRITCHETT, Ph. D., LL. D., President

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EDUCATIONAL REVIEW

SEPTEMBER, 1902

I

THE OUTLOOK FOR THE AVERAGE MAN, IN A NON-COMPETITIVE SOCIETY[1]

I propose to-day to say something about the position and prospects of the average young man in the face of vast current and impending changes in economic and industrial society. Certainly, I shall not hope to exhaust a subject of such varied aspect and such profound importance. I shall be satisfied if I may make some suggestions and observations that may prove in the least degree useful to some of my hearers in their thinking upon general problems, or in their dealing with more personal or individual phases of the economic and social question—for it is obvious that there are prevalent just now two kinds of interest and anxiety in view of the enormous transitions that are taking place about us.

1. On the part of many young men who feel that they have their own way to make in the world, the natural optimism of youth is tempered by a considerable anxiety by reason of the disappearance of traditional landmarks, and of the new meanings that must be written into such terms as "success" and "getting on in the world." A more acute anxiety, relieved by far less of personal hope or general optimism, is that of older men of fixed habits and diminished adaptability, who find themselves the victims of displacement as new methods of work and of organization ruthlessly supersede old methods.

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[1] An address delivered at the Forty-first Quarterly Convocation of the University of Chicago, March 18, 1902, and printed in the *University Record.*

2. Quite a different sort of anxiety is that which has a somewhat disinterested or philosophical basis, and concerns itself not so much with the question, "How shall these things affect *me, my* fortunes, *my* future?" as with the questions, "How is the community to be affected?" and "Are these new tendencies making in the general sense for human emancipation and equality on an ever higher plane, or are they making for a new and unpleasant kind of social and economic imperialism, in which the few shall be plutocratic masters and the many industrial subjects?"

I shall not try to take these questions ponderously or elaborately, and I shall be inclined, quite against my usual habit of mind, to give somewhat more attention to individual and personal aspects, and rather less to economic generalization. The clean-cut theory, the scientific formula, the beautiful presentation of the law of averages—all these bring only cold comfort to the individual young man who is seeking specific solutions for his own problems.

If we had our grounds for trepidation twenty or twenty-five years ago as we peered over the college wall, there were not so many notes of alarm sounded to affright us as the student is likely to hear in these days. The paragrapher's jokes about the college graduate, of course, have always been with us; but we did not hear so much twenty years ago about the overcrowding of the professions and the narrowed range of independent opportunity in the business world.

Let me say at once, to relieve suspense, and not to carry any needless air of gloom, that I for one do not believe in the least that there is any real shrinkage of opportunity in life for the worthy young man, or that the new conditions really threaten the prospects of the individual.

There are, however, certain principles that have new force in these altered times and that cannot be stated with too much emphasis. One of these principles is that the best possible investment any young man can make is in himself; that is to say, in his own training and development for useful and effective work in the world. The thing in general to be attained is power. The thing in particular is the special training of some kind that enables a man to make expert application of his developed force and ability. If trained capacity has been a valuable asset in the past, it becomes the one indispensable asset under the new conditions.

I shall not here broach directly the question whether or not it is worth while for the average young man to go to college. My observation has taught me not to draw too sharp a line in business or commercial life between men who have had a preliminary college training and those who have not. It is useless to lay down rules. Opportunities nowadays are so numerous and varied that the young man of health and determination may reasonably hope to make his way in the world without regard to any beaten path. But in one way or another he must become educated and trained for efficiency. I have in mind an illustration of this principle that the modern young man should count investment in himself, the acquisition of trained capacity, as his one safeguard, his indispensable asset. Two brothers were left orphans at seventeen or eighteen years of age, each with a small patrimony of perhaps ten thousand dollars. One brother was regarded as possessing a high sense of prudence. He was determined under no circumstances to impair the principal of his patrimony, and gradually he subordinated himself to the conserving of his petty inheritance. He was afraid to embark in active business because he had read that ninety-five or ninety-nine per cent. of all business men and business ventures meet with failure. If he had placed his capital at the service of his business energies, it is quite true that he might soon have impaired it or lost it altogether; but in that process he would have gained his experience. And for any young business man who has perseverance and force of character, experience is a good investment at any pecuniary sacrifice—for, sooner or later, the business experience must be had, it being a necessary endowment for ultimate success in affairs; and if the experience can be had young, like measles or other maladies of immaturity, it does not come so hard.

But the young man to whom I refer could not bring himself to risk his capital on the perilous billows of trade or commerce, and much less could he bring himself to the point of doing the next best thing, which would have been to use it up in mere expense or even in self-indulgence. He still exists, no longer so young. He has become a model of economy, and he has been adding something to his capital by saving a part of the interest; but he is disturbed and distressed by the fact that interest rates are falling and by the general insecurity of so-called "safe investments."

As I have watched this man I have satisfied myself that he is just on the eve of doing one or the other of two things. With his now fifteen thousand dollars he will either buy United States government two per cent. bonds at a premium, in which case he will settle down for life with an income of less than three hundred dollars a year, or else he will violently react, throw prudence to the winds, and—in the parlance of the day—buy a "gold brick." If he were much past middle age, we should be sorry for him if he did not buy the government bonds. But since he is still comparatively young, the gold brick would be really his only means of salvation; for, having lost his money, he would have to take some stock in himself and learn somehow to make use of his own energies.

The other young man had a different instinct altogether. It was not, perhaps, that he had fully reasoned it out, but he had by nature a higher spirit, a little more faith in this world and in the universe at large, and altogether a better perception of the meaning of life. He aspired to do things, but even more, he longed to *know* and to *be*. The sole use of his little patrimony seemed to him to be the launching of a man. He believed in education and he was willing to invest in himself. This particular young man had at once a strong taste for the natural sciences and a sympathetic and humanitarian turn of mind. He went to college, threw himself with enthusiasm into his work, determined toward the end of his college course to study medicine, and also resolved to use what remained of his money without stint in fitting himself by study and research at home and abroad for the higher walks of his profession.

I need not dwell upon his early struggles or difficulties in getting himself established in practice. I merely wish to note the fact that he had gained the lifelong friendships and associations of college life. He had made his own those priceless mental resources that are acquired by study, travel, and foreign residence, where a high object is ever in control of conduct and the use of time. And he had established the habitual currents of thought that are engendered by enthusiastic devotion to work in fields of science where new treasures may always be found by diligent and well-directed search. In the very process of training for his life-work he had found unexpected safeguards and compensations. The financial side of the matter is of less importance, tho I may add that our professional brother, who did not make money his chief aim and object, was nevertheless in due time earning twice as much money every week as the prudent one could get in a whole year by clipping the coupons from his government bonds.

This fragment of biography—or this parable, if you please—leads on to several other considerations that I should like to present. One of these is that, generally speaking, it is fortunate for a man if he can choose a pursuit in life in which the pecuniary returns come as an indirect rather than a direct result of his efforts. It was my pleasure a year or more ago to publish an article written for me by Mr. Hezekiah Butterworth, entitled "The old age of New England authors." Mr. Butterworth pointed out the remarkably long period thru which New England writers have on the average been enabled to continue their useful and valuable labors, and he attributed this largely to the fact that cheerfulness and serenity promote long life and the retention of the mental powers and faculties in old age. And all this is undoubtedly true.

But it was also true in a very important sense that this class of workers owed much of that cheerfulness of spirit to the fact that the day's work did not take them into the competitive struggle and clash of the marketplace, nor compel them to give much anxious thought for the morrow. It is not that one should aspire to mere quiet or aloofness, in order to cultivate serenity and live to be ninety years old. My point simply is that there are great compensations in any kind of active life, however intense and severe its labors may be, if only the work itself absorb the mind, and the pay come as a secondary consideration.

My friend, a physician, striving to save the life of a little child, lost much sleep, and labored incessantly; but I do not suppose that he gave the smallest fraction of one minute to a thought about the amount of his fee. Now an equal amount of effort, strain, and loss of sleep expended upon a money-making transaction, with nothing in mind except the dollars to be gained, would have a wholly different result, both immediate and permanent. It would break a man down, and that ingloriously.

Clergymen, professors, lawyers of the better class, physicians, engineers, architects, and even journalists and newspaper men who do work of a professional grade—all persons, moreover, engaged worthily and usefully in any sphere of education, philanthropy, or public service—and in the term public service I include not only the non-official classes, but also the better class of civil servants and also the army and navy—the people who choose to spend their lives in these and kindred callings may be said to form the advance guards of the social order that is yet to be.

Taking them on the average, they have neither wealth nor poverty, and they give their best efforts to kinds of work which are satisfactory in themselves. Such kinds of work to a very large extent have attached to them fixed or customary livelihoods that come of themselves where intelligent and faithful service is rendered to the community. I am confident that the tendency in many other fields of endeavor will be towards some such non-competitive and permanent standards of income, with comparative fixity of tenure, and opportunity to render devotion to the work for its own sake.

Certainly I hope that the young men in our colleges will be Utopian enough to believe in a future state of economic society in which each man will be more free than now to render service to the community according to his special abilities, while in return the supply to all useful workers of their ordinary needs will become more and more a matter of easy assurance, and therefore much more in the background than now. But even with our present organization of economic society, the young man will find many compensations and many advantages—other things being equal—in the choice of a pursuit in life which interests and satisfies in itself while yielding its pecuniary rewards indirectly.

Let me refer again to the question of the relative value in this transitional period of the well-equipped, highly trained man; for we have been so gravely and so incessantly warned about the crushing out of opportunities for young men thru the growth of capitalistic combinations, that many of us find it hard to believe that we are not in some danger of being enfolded, stifled, and crushed within the tentacles of the octopus. We have been told that the whole present tendency is one that endangers not only the position of the workingman—that is to say, the man who labors with his hands, whether skilled or unskilled—but also interposes obstacles in the way of the independence and prosperity of merit, education, and high training. For the young man who is not lucky enough to inherit a fortune, or to have influence and favor that gild his prospects, it is said that the world offers a poor and ever-diminishing opportunity for earning a livelihood and achieving success; in short, that the situation grows rapidly worse, and that the clouds on the horizon are much darker than those overhead.

Now it is true that we are moving fast in the most acutely transitional period of the world's economic history. A powerful financier remarked to me the other day that we had lived a thousand years since the Sherman anti-trust law was enacted in 1890. The production of wealth is on a prodigious scale, and its private accumulation, which has already in a number of instances given us the man who is a millionaire a hundred times over, is pointing to the possibility of the billionaire—the man with a thousand millions, as no solitary phenomenon ten or fifteen years hence. But the man of many mililons is the incident, or by-product; he is not the fundamental cause, nor is he the chief or final result of the modern production of wealth. His status does not much affect the economic position of the average man.

Two things have brought about this recent wonderful outburst of economic production. One is the growth of human knowledge as respects the laws and powers of nature, resulting in practical achievements of science and invention. Many of the men representing this great force were brought together some three weeks ago as members of a luncheon party in New York to meet Prince Henry. A number of these were men with whose names, even, most of us had not been familiar, yet they have made astounding and revolutionary applications of science to useful production in mechanical or electrical or metallurgical fields, or else thru great talents in organization, and in the use of improved agencies, have become the masters of one or another of the great lines of industry or manufacture. These, rather than the soldiers or the politicians, are the typical leaders, the "Plutarch's men" of our new era. The second of the two agencies or forces that have brought about this great outburst of economic production has been the use of the principle of co-operation giving us great associations of capital and of labor, limiting more and more the wastefulness and meager results of competition on the *small* scale, working out production on the *large* scale, employing every conceivable mechanical device to heighten the productivity of labor—unity, harmony, and co-operation being the watchwords all along the line.

Now these two things—the application of science and the use of the principle of human co-operation—characteristic as they were of the closing years of the nineteenth century, are going to be still more characteristic of that period in the twentieth century in which the young men who are living to-day must do their work. They must be prepared, therefore, to accept the new ideas and adjust themselves to the new society.

Science, invention, skill, special training, union of effort, harmonious co-operation—these are to be the keynotes, certainly, of the next two or three decades. Not only is it not in the least true that money, capital, mere dead material possessions, are getting the better of human flesh and blood, and that mankind is coming under a new form of slavery, but exactly the opposite is true. Capital and labor, of course, must continue in association with one another, but of the two it is labor—that is to say, human service, where it shows the touch of efficiency and knowledge—that constantly grows relatively stronger. There never was a time when training and skill in the individual man counted for so much, and when mere money, apart from training and skill, counted for so little.

When money could earn ten per cent. in safe forms of investment, the man with fifty thousand dollars could think himself quite wealthy and perchance go thru life without an occupation. But now, when the standard of living is advanced so much, while rates of interest have so greatly declined, the same sort of man—who in order to keep his relative position needs twice his old-time income—finds that mere capital counts for less and less, while highly skilled personal services count for more and more.

Even in the strict world of finance itself, it is scarcely true any longer that money breeds money. For special skill, trained organizing ability, broad outlook, and the highly developed personal faculties, even with an empty pocket, may prove a far better start in the race for wealth than a million dollars without those qualifications. It is true that the big combination has united and absorbed many little enterprises, but the big combination absolutely demands for its success a high order or personal service. It is talent and skill rather than the dead weight of united capital upon which the great industrial and transportation systems must base their chief hope of permanent success.

Where one finds such enterprises under the active direction of men reputed to be multi-millionaires, one is likely to discover that such men are no drones, but, on the contrary, are men of higher personal capacity and qualification for leadership, quite irrespective of their millions, than other men who could be found to take their places. Certainly, up to a certain point in their careers, even men of such vast wealth as Mr.

Carnegie and Mr. Rockefeller would stoutly declare that their trained skill in the organizing and conduct of business enterprises was worth more as a productive asset than their accumulations of capital. If Mr. Schwab, who was not forty years of age when made president of the United States Steel Corporation last year, received as large a salary as the newspapers credited him with receiving, it is easy to compute that it would have required a fortune of $50,000,000, if invested in United States two per cent. bonds, to produce as great an income as this reputed salary, paid to one young man as the price of his personal services. I have no idea how wealthy Mr. J. Pierpont Morgan may be, but it would be safe enough to assert that the gains produced by his personal effort must be several times greater each year than the income he would derive from his accumulated fortune if it were invested in government securities and he were retired from active business.

I mention these names not in the least to be personal, but because they are well known, and solely for the way they bear upon this question of the outlook for the average young man, illustrating the principle that now, not less, but more than ever, the man is superior to the dollar.

To reiterate it, let us grasp firmly the underlying principle that in all this recent evolution, at so rapid a rate, of business and economic life, knowledge, skill, and character stand as the best and safest assets, and that they count for more, both presently and prospectively, than at any previous period.

The great business of a college is to help high-minded and progressive youth to develop into manhood of discipline, capacity, and power. And that being the case, the college certainly never had so important a work to do before as it has to do to-day, for never before was this particular kind of training so relatively advantageous, and never before was it so needful for young men of all degrees of fortune to be prepared to do a man's work in the world on the highest plane of their own particular capacity.

I am aware that the college and the university do not, from their traditional standpoint at least, aim so much to fit young men for bread-and-butter pursuits; but the college and the university do stand, not merely for acquisition, but for the high training of the whole man and the development of power. And such a man is not likely to prove in the end a misfit in the practical world.

It is true, of course, that the problem of personal adjustment is a difficult one for a great many young men. Those older men who remember their own perplexities will have ample sympathy for the college junior or senior who is a well-balanced man and entirely willing to do faithful work in the world, but is not conscious of an overpowering call to enter any particular profession. Some young men decide these questions on broad principles, while others are guided by immediate considerations. I have never believed that the successful choice and pursuit of a calling should be thought chiefly a matter of affinity. Rather am I inclined to think it all a matter of character; that is to say, of steadfastness, whole-heartedness, and concentration. Not only is all good work honorable, but it can be made sufficiently interesting.

In some directions, of course, one must give a little heed to the law of supply and demand. Thus it would hardly pay for five hundred young men to rush violently into preparation for professorships of Sanskrit or anthropology; but even such miscalculations of the market need not be fatal, for readjustment is neither impossible nor disgraceful. Thus the anthropologist out of a job may in due time make fame and fortune as a criminal lawyer; and the Sanskrit man might have developed gifts that would fit him for a high place of service in the Philippine Islands if he did not feel inclined to go to India as a missionary. There is not much reason to be afraid that honest effort at training one's self for work in the world may prove to have been misapplied. I have often heard men of widely varied and more or less unlucky experiences say how in the end all their previous studies, efforts, and ventures had seemed to bear exactly upon the particular task to which they finally settled down with success and contentment; so that, in the retrospect, a consistent purpose appeared to run thru all their earlier career, giving unity and cumulative effect and value to what had once seemed fragmentary, unrelated, and quite unfortunate efforts.

Two things are quite certain under the new social and economic order: first, that there is to be a widening field of productive activity for the man of liberal attainments, and second, that there is to be a vastly improved environment of opportunity for the exercise and enjoyment of liberal attainments, quite apart from their usefulness in any direct sphere of productive employment. Both of these reasons seem to me to justify abundantly almost any effort and sacrifice that a young man might make to improve his mind by courses of study—and to obtain college and university training if he should feel himself drawn in that direction.

In college one ought to acquire the habit of seeking the truth and liking it for its own sake in a disinterested way. One's logical faculties ought to get good training in order that fallacious reasoning may easily be analyzed and disposed of. Scientific study should have as its great object the training of the powers of exact observation and of accurate analysis; and from beginning to end a college course should train the student in the correct and exact use of the English language. As to special departments of knowledge,—such as history, political economy, literature, ethics, and psychology,—certainly it is important that the student should acquire and retain as large a fund of information as he conveniently can; but it is still more important that he should get his intellectual bearings, acquire certain methods and habits of thinking, verify certain standards and principles, and learn how to apply sound generalizations to current and passing phenomena.

The important thing is clearness, which means exact thinking, and next in importance is a certain sympathetic aptitude in more than one direction, together with some degree of capacity for enthusiasm; that is to say, some optimism, either temperamental or acquired. Men whose general training has done so much for them can adapt themselves pretty readily to special callings, learning the technique of almost any profession or industry, and earning a decent livelihood while possessing the capacity for a rational use and enjoyment of life.

When it comes to the choice of a profession or calling, the individual will be guided by circumstances that defy all attempts to reduce the thing to rules or principles. It is a mistake to disparage any established profession. Thus, it is honorable to assist in the administration of justice, in the making of laws, and in their application to the various relationships of society. The legal profession must therefore always have its useful and prominent place. With the harmonizing and unifying of business relationships, and the substitution of the co-operative for the competitive principle, it is obvious that litigation is affected; and in some spheres it is, fortunately, much reduced. All this will have its effect upon the future of the lawyer's calling. To care for the legal business of some individual corporations nowadays requires a great number of trained lawyers. In some New York law offices, as doubtless also in Chicago, one finds thirty or forty, or even seventy-five or a hundred fully trained members of the legal profession—excellent lawyers, of whom one never hears—most of them college graduates; a few, perhaps, sharing in the profits of the firm and ranking as partners, but most of them employed at moderate salaries and working as law clerks.

It happens to please these men better to have their assured salaries and live their lives in a great metropolitan center with opportunities to indulge their cultivated private tastes—to see pictures, to hear music, to meet their friends at the club—than to scatter into smaller cities and towns, hang out their shingles on the old-fashioned plan, and elbow their way to the front in law practice and in politics as persons of at least local importance. For my part I should probably prefer the independent shingle and the country town; but this is a matter of taste not to be disputed about, and the point I wish to make is that more and more the members of the legal profession are doubtless destined to associate together in these large groups under circumstances which afford a good deal of stability and satisfaction.

The medical profession affords most inviting opportunities because of its rapid progress upon really scientific lines, its wonderful further opportunities for research, its rare opportunities for the rendering of service to one's fellow-men, and above all its growing authority and its changed position as respects public administration. Now that populations tend to become urbanized and millions of people must live in close proximity to one another, our men of research in the medical profession have been making a series of most providential discoveries, which have totally changed all the conditions of life and have quite reversed our whole outlook upon the future.

It is to the men of this noble profession that we owe that greatest of all modern discoveries, namely, the discovery that those very conditions of life which fifty or seventy-five years ago seemed destined to destroy the human race in the civilized countries of high industrial activity, could be turned into conditions for the positive improvement and progress of the race. It was this profession that developed the modern science of sanitary administration; worked out and applied the germ theory of disease; abolished epidemics of the large and uncontrolled sort such as used to ravage all great towns at frequent intervals; showed us the relation of pure water, sufficient air supply, and sunlight to the health of the community; taught us to inspect food; lowered the rate of infant mortality by guarding the milk supply—and, in short, set the real standards for the administration of municipal government.

More and more, I am inclined to think, the medical profession will pass over from the sphere of a private to that of a public calling. It will become one of the most essential of the protective services, somewhat as the private watchman developed into the public police organization; and the voluntary fire companies grew into the great paid and highly organized fire departments that we see to-day. The more or less voluntary and haphazard hospital facilities have tended to become systematized and public in their support and character. The administration of relief and charity in modern countries has passed over in the main from the private and voluntary agencies to the sphere of a necessary and thoroly organized public function. And that greatest of all protective services—the education and training of the children of the people for their places as citizens of the state, members of general society, and producers in the economic sense—has in the course of time everywhere come to be recognized as the very foremost of all the functions of the community or the state.

In a somewhat similar sense, then, I am inclined to think, a larger and larger proportion of the men trained for the practice of medicine will become public servants—administering sanitary systems; looking after the physical development of the children in schools; caring for the health of workmen in factories; ministering to the sick in hospitals and institutions; serving special classes like railroad men, sailors, or students, and specializing for the general care of the community in a way analogous to that of the official doctors who now enforce vaccination, or the United States marine hospital service. I had not meant to say so much about the future of a particular profession, and I have said this only as illustrative of certain tendencies which I believe will affect the economic status of workers in a good many callings.

At this point I should like to say with as much stress as possible, apropos of the new society that is to be evolved, that money-getting under competitive conditions is by no means the indispensable motive power that impels men to their best activity; and there is reason enough to think that it may safely be allowed a less important place; that is to say, human society will by no means stagnate when men are not driven to make exertion chiefly thru fear of poverty.

I affirm, without the slightest doubt or hesitation, that in many lines of activity affecting the community at large it is possible to secure as high a degree of efficiency in non-competitive and public service as in service under the spur of competitive struggle and personal ambition. It is a great mistake to undervalue men's motives. Money-getting is only one of many springs of human action; and for my part

I have long since become convinced that the sense of public responsibility brings out high qualities in men that might in those same individuals have lain dormant in strictly private occupations.

A large part of the progress of our times, even in the fields of wealth production, has been due to research and study by men who were actuated not in the least degree by the motive of gain. But the greatest example of all is afforded by what is now the foremost of all our professions, namely, the profession of teaching. Here we find scores of thousands of men and women rendering noble, unselfish, and indispensable service to the community on the basis of fixed, moderate stipends, removed almost wholly from the competitive sphere of activity, and inspired to diligence and efficiency in their work by a sense of duty and responsibility.

To them it belongs in this new period to train the rising generation to right views of life and citizenship, that is to say, to develop the intelligent, co-operative man of the future, as against the competitive man of the past. The selfishness of the competitive man has grown principally out of fear, and his sense of living in a world whose motto was "every man for himself." The work at hand is the training of the man who can afford to believe that what helps one helps all, and that universal intelligence means universal emancipation.

Right-minded men and women, therefore, who fit themselves for the work of teaching, and who appreciate its relation to the demands of citizenship in an economic society, may well feel content in the thought that they have chosen a noble calling in which they can serve their country and their generation and find many incidental rewards and compensations as they go along.

As for other professions and callings—such is the trend of our industrial life that it would seem likely that it could make room for almost as many engineers, electricians, and men of technological training as are likely to present themselves. In the higher walks of what is commonly called business—banking, mercantile enterprise, transportation, general manufacture, and the various branches of trade and commerce—doubtless a greatly increased proportion of young men must expect to work on salaries in large organizations. I am inclined to think that men who are engaged in the business of railroading are destined to be just as well off, under the amalgamation of the vast network of American railways into several comprehensive systems under united control, as they were when, not so many years ago, we had a vastly larger number of separate railway companies, each with its complement of officers, engaged a part of the time in reckless rate-cutting, a part of the time in extorting high rates on the principle of "all the traffic would bear," and the rest of the time in secret rebating. The newer method tends to make railroading more scientific, gives it a better opportunity to serve the traveling and producing community, and affords a more attractive calling for real merit and character.

As to the amalgamation of commercial and industrial enterprises, the rapidity of the process has doubtless caused a great deal of distress thru changed methods and the displacement of men. But if one or two traveling salesmen can really do all the business that thirty or forty were struggling and competing for under the old system, the community as a whole must certainly reap the benefit when the necessary readjustments have been made; and what is good for the community as a whole will not fail to be good also for most of the individuals concerned.

Let us not forget that the intelligent man of the future is also to find a great outlet for his energies in the old and dignified calling of agriculture. The application of science and invention to the business of farming is destined to work changes which we are only beginning to suspect. Scientific agriculture affords a field of study of almost infinite variety, and promises safe, if not glittering, financial returns. Along with the complete transformation of the business of farming under the new applications of science and invention, is destined to come about the rehabilitation of country life thru the intelligent cultivation of co-operative methods. Greatly improved highways, the electric trolley for freight as well as passengers, the substitution to some extent of motor traction for horses in hauling and farmwork, the extension of the free postal delivery, the universality of the telephone, the centralization and great improvement of schools thru the facilities offered by better roads and thru organized methods for carrying the children back and forth, the multiplication of co-operative cheese factories and creameries, and common action in various other directions having to do with purchase and sale, the performance of heavy work by machinery, and the utilization of raw products by the establishment of additional primary industries analogous to the butter and cheese factories, the multiplication of traveling libraries and the improvement of social facilities—in all these and various other ways country life can and will be greatly revived; and the position of the intelligent and well-educated farmer may well be one of dignity, prosperity, and contentment.

After all, the object of that better society toward which the civilized world is moving is to reach such a point of abundance in production, and of fairness in distribution, that the man may be much more than a mere factor in the economic process. There was much basis in fact for the old conception of the orthodox economists, according to which man was almost wholly concerned with economic functions, living his life under the hard-and-fast sway of the law of supply and demand. But we are destined to outlive that conception and that status. Consciously or unconsciously, blindly or with open eyes, we are working out our racial emancipation from that grind of hopeless toil which has been entitled the primeval curse.

In hopeful activity, and useful occupation, there must indeed always be exceeding great reward. But to have achieved a certain degree of leisure lies at the very essence of progress in civilization. Herein lies the value of the periodic day of rest, the occasional holiday or half-holiday, and, above all, the gradual shortening of the daily hours of labor for all classes of workers; provided, however, that the shortening of hours is attended by such training and education, and is surrounded by such opportunities, that leisure from toil is likely to be filled with pleasing and improving activities. Under certain phases of the old competitive struggle for existence, a man's toil for livelihood often occupied fourteen, or sixteen, or even eighteen hours, out of the twenty-four, and it meant the whole of life.

But where men work only eight or nine hours, with a reasonable prospect that a few years hence they will work only six or seven, the whole situation changes. It becomes relatively less vital that they should struggle absorbingly to rise from the status of journeyman to master, and from that of master to the man able to retire from a business that always kept him absorbed and breathless, only to find himself unfit for anything except to accumulate adipose and to indulge somnolence in a stupid and reactionary old age.

In the better time to come, when work for ordinary workers of reasonable intelligence shall have taken on the co-operative as distinguished from the competitive aspect, and when the triumphs of invention and of highly organized production and distribution shall further have shortened the hours of labor, the son of toil may find ample compensation as he goes along in his personal freedom, in his ownership of himself. He may find himself in possession of time enough to cultivate a flower garden, if that is what he likes; to acquire languages and study comparative literature, if such be his bent; to experiment in a laboratory; to cultivate the art of music, or, in short, to offset the monotony of his necessary vocation by the variety and charm of his avocations.

Surely no one will say that this is a fanciful or visionary forecast, inasmuch as it is highly obvious that in very many fields of human endeavor that type of man has already made his appearance. The world is steadily moving toward the position in which the individual is to contribute faithfully and duly his quota of productive or protective social effort, to receive in return a modest, certain, not greatly variable stipend, adjust his needs and his expenses to his income, guard the future by insurance or some analagous method, and find margin of leisure and opportunity sufficient to give large play to individual tastes and preferences, and therefore to counteract any stagnating or deteriorating effects that might come from wearing the harness of his regular craft or calling day by day.

One might illustrate by comment upon the small-salaried, well-educated civil-service officials of Germany, who as a class are remarkably contented, happy, and useful; or the military and naval officers of all countries in times of peace; or the class to whom I have already referred, engaged in this and other countries in the work of education; or the better class of trained and steadily employed men in the service of great railway, banking, insurance, and other corporations; or the class of highly instructed men employed in many branches of the public service in England, who render a fair equivalent for the salaries they obtain, and yet achieve leisure enough, many of them, to attain a fair place in literature, or at least to gratify their individual tastes. There are few such sources of satisfaction as to feel with the poet that one's mind is his kingdom, provided only one has some little leisure to occupy the throne.

Just as the ultimate goal in a democracy is not strife and discord, but political harmony and concord, even so in the economic life of the community, the better hopes reach far beyond the wastefulness and strife of the old competitive system and demand the substitution for it of co-operative methods and scientific organization. From this new period of unified effort upon which we are entering let no man think there can be any return to the competetive system as it has existed heretofore. These are movements too fundamental to be vitally affected by hampering statutes or decisions of courts. Just as trades-unionism could never be destroyed by English conspiracy laws or by the American device of injunctions, just so the unifying of transportation interests and the scientific organization of industry will make steady progress, not to defy Sherman acts and judicial mandates, but to obey those more fundamental laws and principles that have come to operate with a momentum now practically irresistible.

We are certainly then to have this new, close organization of industry. We cannot make water run uphill, but we can often do something to fix its channel and direct its course, and turn what might have been the harmfulness of the flow to useful and fructifying ends. We may be sure then that in our new economic society this question of *control* will be of vital importance, and that it will be settled in the light of experience, on the basis of efficiency and of the greatest good to the greatest number.

Three methods of future control are readily conceivable. One method is that of control by individuals or by syndicates composed of comparatively few men, whose fortunes may be told in hundreds or in thousands of millions. The second method is that of the radical enlargement of the functions of the political community, so that the people themselves, organized as the city, the State, the nation, may assume control, one after another, of the great common services of supply, and the great businesses and industries. The third method is that of the gradual distribution of the shares of stock of industrial corporations among the workers themselves and the people at large, until in one service or industry after another there shall have come into being something like a co-operative system, managed on representative principles, analogous in some measure to the carrying on of our political institutions.

I have the impression that we may see something in this country of all three of these methods operating side by side. Doubtless in some large industries we shall for a good while witness control concentrated in the hands of a few individuals. They will hold this control, however, subject to the inevitable law of diminishing returns on capital and of an ever-improving status for the intelligent employee. I may be wrong in my observations and impressions, but there has seemed to me to be a marked tendency toward the gradual elimination from industrial control of the capitalist as such, and the substitution for him of the skillful administrator. But the administrator—whether of the great railway systems, like M. de Witte, head of the Russian system, or Mr. J. J. Hill, or of a great manufacturing enterprise like Mr. Schwab of the steel corporation—is produced in the business itself, and comes to the front thru force of merit and ability.

Recognizing this fact, the great capitalists who wish their sons to maintain any actual hold upon the conduct of business see the necessity of having them taught in a practical way, beginning at the very bottom of the ladder. The larger the transporation and industrial corporations become, the more they are at the mercy of the public—of the State, on the one hand, and of their employees on the other. The influence of the State will be to make for publicity and for methods that tend to steadiness, and thru taxation as one method and direct or indirect regulation of rates and prices as another method, the community will check the accumulation of undue or monopoly profits. On the other side, the employees will insist upon gradual amelioration of their own status. Such conditions will of necessity bring efficient men to the front in the organization of labor, and not less so, certainly in the administration of the business from the standpoint of capital.

And with improved intelligence on both sides there will come better and closer understandings, with the prospect that periodic agreements upon wage scales and conditions affecting labor will come into common use, and that not only will mutual respect and confidence be greatly enhanced, but the opportunity of the individual workman to advance thru efficiency and to pass from the inferior to the superior side of the situation will be made easier. As making for those better relations one could hardly praise too highly a movement born in Chicago, under the lead of the Civic Federation, for bringing capital, labor, and the general public into closer relations as respects the great industrial movement of the day.

In France, where the habit of saving is very highly developed, and where capitalistic control is not quite so highly developed in the hands of particular individuals as in England and the United States, the tendency is toward the wide distribution of the share capital of railways and of other enterprises among the people who belong to the great working class, particularly to the class of skilled and intelligent workers. In Germany, on the other hand, the tendency is rather strongly in the direction of the increase of the direct industrial functions of the municipality or the higher government—the employees of railways, telephones, and the like assuming the status of civil servants and public employees like our letter-carriers.

Within the sphere of the municipality itself this tendency toward increase of function, and therefore toward the absorption of an increasing proportion of the community into direct public service, is particularly strong in the cities of England and Scotland, in nearly all of which there is on foot at the present time a movement for the direct ownership and operation of local transit lines. This movement follows upon longer experience in operating gas and electric-lighting, as well as water supplies; and upon the experiment of direct employment as opposed to the contract system in the making of streets and sewers, and various other kinds of public work.

I do not know at all what lines of public policy in these matters we shall have preferred to adopt in the course of the average period of active life and work of the young men who are present in this audience to-day. But of one thing I am entirely certain, and that is that there has never been such a hopeful outlook for the sane and wise dominance of the best average intelligence. I would have a government so efficient, whether of the city or the State, that it should become a matter of comparative indifference whether the government carried on a service directly for the people as a co-operative community, or whether it secured the interests of the citizens thru the proper regulation and control of a private corporation whose shares of stock should themselves be widely distributed.

In any case we shall need very strong, capable governments, because the increasing intelligence and refinement of the community will demand that those things now undertaken by the government shall be managed with a far higher degree of skill and success than heretofore. The preparation for this high average improvement in the tone and quality of government, whether local or general, must simply come about, as one readily sees on reflection, with the improvement in the intelligence and moral sense of our citizenship at large—along with the growth of a more acute sense of the practical value of the community's efforts to the individual citizen.

More, rather than less, shall we rely henceforth on the principle of democracy; and more, rather than less, shall we be obliged to adopt the policy of leveling up the many, even if it were only for the benefit of the few. Henceforth the rich man and the talented man, quite as much as the poor man and the man of ordinary parts, are to find their security and their prosperity in a community so ordered as to make for the general comfort and the general welfare.

The community as a whole will become the repository of such priceless and varied wealth, the administrator of such vast resources, the provider of so many things desirable and useful—that its services will call for and receive the best talent; and no one will be so sufficient unto himself that he can afford to be indifferent to the success of the public administration.

It is a very great thing to have attained to some sort of clear conception of the possibilities of the ideal city of the future. Already that ideal city is emerging. Its elements to a large extent already exist, some in one place, some in another, all of them capable of transplantation and entirely compatible with one another. Thus the city with an ideal water-supply is not debarred from possessing ideal schools and public libraries. The city that has perfectly paved and well-cleaned streets may have everything else that makes for health, attractiveness, safety, and pleasure in the public appointments. No private schools can possibly be as good as the free public schools of the United States are destined to become in the due course of time. No private museums or galleries of art, no collections of scientific objects, no libraries, no monumental art or architecture could possibly, in private hands, attain such importance as that which will belong freely to all the people in common. No private grounds could equal our public parks as they are destined to develop. No individual could conceivably so surround himself with safeguards for the health of himself or his family as the community will supply to him and to its humblest citizen alike.

Thus the evolution of the new order of things is to give us some approximation toward the ideal of the modern city with its low death-rate, its admirable facilities for education, recreation, and physical culture; its improved industrial conditions; its well-guarded housing arrangements; its clean streets—free from dust and largely free from noise; its pure atmosphere—with smoke abolished; its playgrounds; its public baths, and its varied opportunities for the use of leisure.

While the present tendency in the re-grouping of population, under which the large towns are growing, is doubtless to continue for some time to come, the contrast between city and country life will become less marked; for with the readier access of the children of the towns to the out-of-door and open life of the country, there will also come about a great movement for supplying the country itself with some of the advantages of the town thru the co-operative agencies to which I have alluded. The populous community of the future, even more than of the past, must stand firmly by the principle of democracy. One of the chief objects must be to equalize conditions, to lift men up in the scale of being, and to fit the oncoming generation in the best possible way for responsible citizenship.

When one compares the conditions of life in the great towns as they commonly were twenty-five years ago and as they are at their worst to-day, with those conditions that we now see can be feasibly supplied to all, we get a new sense of the reality of social progress. For it is nowadays regarded, not as a wild dream, but as a fairly sober and reasonable proposition, to demand that the poor man may at least live in a model tenement, on an asphalted street, with pure air to breathe and with pure water to drink; that he may be surrounded by marvelous safeguards in the way of health protection and police and fire protection; that he may send his children to the very best of schools; that in the evening he may read the best of books from the free public libraries, by gas or electric light cheaply furnished; that he may hear the best lectures without price; may attend excellent free concerts, visit beautiful parks, public museums, and galleries of art, look upon noble architecture and monumental statues with a feeling of pride and a sense of common possession; that he may ride swiftly and luxuriously in public vehicles at small price, and that he may be safeguarded against the worst dangers of illness or old age thru one form or another of benefit funds or social insurance.

The community which professes to do all this for its members is at once minimizing the disadvantages of the laboring man and lessening the peculiar advantages of wealth. For the poor man, too, under the eight-hour system, is to have his leisure, his books, his music, his pictures, his parks, his opportunities of quick travel, his swimming bath, his gymnasium, his golf course, and a hundred advantages that were wholly out of reach even of the well-to-do man living in towns forty or fifty years ago.

And if it is reasonable to hope for so much for the intelligent workingman—as the new social order develops and the ideals toward which society is working come into fuller realization—surely the man of higher education, more complete training, or more perfect moral, mental, and physical self-control is also to find things better rather than worse for himself. Least of all should *he* fear lest there be somehow a diminished opportunity for *him* to play some fitting part in the world's activity, and to reap some fitting reward. The margin of individual risk is destined to diminish. I think it true, also, that the margin of opportunity for obtaining very exceptional advantage over one's fellows in some particular directions is also to be diminished. But there will be corresponding increase in the opportunity to earn honorable renown by the full devotion of one's talents to the social good in any chosen field.

I hold that the general trend of progress at the present time lies before us with exceptional clearness; that life offers rewards and opportunities, as never before, by virtue of the new social and industrial organization; and that the outlook is bright with hope, thru the transformed environment that the community is providing for the individual, and thru the widening field of opportunity, in consequence, that the individual finds for activity and service among his fellows.

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NEW YORK

II

HERBERT SPENCER AND WHAT TO STUDY

One of the greatest questions in the philosophy of education relates to the course of study. What shall be studied in school? What branches of the entire course are suitable for beginners in elementary schools? What branches for pupils of secondary and the higher education?

Herbert Spencer has made a contribution to the literature of education in which he challenges the course of study as he finds it in operation in the schools of his country, and he proceeds to lay down the laws by which a better course could be formed. In general, he adopts the same basis as Rousseau, namely, the return to nature; but with him return to nature means the study of natural science—natural science should be the chief subject of study. The highest division of natural science, as he understands it, is sociology; next to it is biology.

In our time science has come to the prominent place which it holds by reason of the fact that we conquer nature by means of it; we use it as an instrument with which to compel things and forces into the service of man. We have made great progress in our arts by means of our inventory of nature and its processes, and by means of the insight that we have gained into modes of controlling and utilizing them.

It has happened, therefore, that all intelligent people have constantly before their minds the progress which is being made in civilized nations by means of the discoveries of science. It is called an age of progress; new inventions are made every day based on these discoveries. The idea of progress is ever constant with us because we see that nature, as it is, is made continually more useful to man by means of inventions. Hence a book that recommends the study of natural science appeals to a public disposed to favor its conclusion; for our wants are satisfied by these inventions.

Nothwithstanding this good feature of Herbert Spencer's book on education, it may be said on the whole to be unscientific in its treatment of education; for while he praises science he does not apply its method to education as it is and has been. To do this he ought to study the genesis of the course of study in our schools and explain its functions historically. The unscientific person takes things as they are and cares not for their origin. To study things from a scientific standpoint means to take an inventory of them and then to find the processes in which those things have originated. They should be connected with other things; they should be seen in their causal process. But Herbert Spencer evidently does not understand the system of education as it exists, nor has he made a true account of the educational value of its branches of study.

The education that he proposes for us he tells us is for the purpose of complete living. Each child should be brought to school to learn the art of complete living. What is Spencer's definition of this art of complete living? With him education is something useful for showing how to take care of the body and how to perform the lower social functions—the preparation of food, clothing, and shelter. The first education, according to him, is not that which relates to man's spiritual life and to the preparation of man to understand the view of the world entertained by his civilization; that would be the religious ideal and the social ideal. "The first knowledge which man should seek is the knowledge which goes *to direct self-preservation.*"

To test this, suppose on the other hand the definition of complete living to be the elevation of each individual into participation in the life and experience of his race. Then each one would find complete living to involve the initiation into the civilizations of the past that furnish the elements out of which our own civilization is formed: the manners and customs of men, their views of life and the world; the matters of right conduct towards one's fellow-men, so that one may live with his fellows without quarrels and hatreds. This would seem to be the knowledge which would lead to direct self-preservation. If one cannot combine with his fellow-men in such a way as to co-operate with them, and assist them in producing a reasonable result—if his behavior towards his fellow-men is such as to destroy the works of their hands, he will force them to turn their endeavors against him, and the result will be his destruction.

Morals and religion relate to this kind of knowledge of how to behave towards one's fellow-men. They are the best means of self-preservation. But Spencer thinks that the first business of the child is to know physiology. The second step in knowledge, according to him, would be the selection of a vocation or trade and the mastery of the means of livelihood. This leads to his third step, namely to training in citizenship; and the fourth and last of the studies which the schools should encourage includes literature and art, and whatever belongs to relaxation and amusement—these to be studied in the leisure of later life, as being of only minor importance. But Aristotle characterized man as the symbol-making animal. Human nature has to be expressed by symbols. The poets of the people set up and describe in symbols the ideal which makes civilization possible. Literature, according to this, furnishes the most essential branch of education in so far as its function is to help the child understand that ideal; it assists the child to understand human nature; to understand the motives of his fellow-men. Without a knowledge of human nature the child will become misanthropic; he will think that everyone's hand is against him, and it will result that his hand is against his fellow-men. In whatever man does in work or play he expresses in some way his ideals. The child in school should be taught the art of understanding the symbols which men have made to express human nature.

Man sits in the theater of the world, as Plato tells us in one of his dialogues, and sees shadows of men and events thrown on the curtain before him. Behind him and out of the sight of his senses is the great leader who is making these shadows; these shadows are the particular realization of great types or ideals, great universal processes, or rather I should say institutions, for the human events about us are always connected with the realization of institutions—the family, civil society, the state, the church. These institutions are the true reality as compared with individual events, and these latter by comparison are mere shadows. Education helps the individual to explain the shadowy events before him in his own experience by the great realities of history—by the great institutions of man realized in national governments, in systems of productive industry, in the church.

Modeled after these great institutions is the school. The school is a sort of transition from the family into those higher institutions. Each of them, however, has an education peculiar to itself outside of and beyond the school. In the family the infant learns to talk his mother tongue; he learns the habits of care for the person, the cleanlinesses and decencies of life, and in short the art of behavior which makes him a possibility in human society. These habits have as their most important part the moral element and the religious element. Civil society, on the other hand, teaches a young person advancing out of youth into manhood or womanhood the particulars of his vocation, how to earn his living by providing something useful for his fellow-men; it is as essential that he shall understand the etiquette which governs the treatment of his fellow-workmen, and of his superiors and inferiors, as it is that he shall be able to perform the work of his trade.

The state, again, has a peculiar kind of education; it teaches the duties of citizenship; it educates the individual constantly by the thought or the ideal which it proclaims to the world. Just as the fact of progress in natural science and the useful arts constantly educates the individual, and his belief in progress guides his action among men, so the consciousness of belonging to a great nation is a constantly educative influence, giving strength of character and self-respect. What it was to be a Roman in ancient times it is to-day to be a citizen of Great Britain or the United States.

Again, the church announces the divine plan of the universe, the fundamental ideal by which all things are to be understood; the final standard by which all things and events are to be measured. This is the most educative of all institutions, because the person who harbors a religious ideal puts himself into the process of applying its standard to every experience of his life. These four kinds of direct education given by the family, the industrial society, the state, and the church, are all outside of the education of the school, and the school should not be held responsible for them.

The school has a narrower function, but a very important one; it must give to the child a knowledge of those instruments or conventionalities which make possible for him the acquisition of human learning by means of his own efforts. The school teaches consequently the arts of reading, and writing, and arithmetic; the technical terms of geography and mathematics and history; the methods of study in the various departments of human learning. It teaches incidentally the kind of behavior which enables the pupil as a member of the school to aid the work of the school as a whole, and enables him to get the benefit of its instruction. Regularity, punctuality, silence, and industry, make possible the concerted action of the school, and make possible the aid of the individual by the teacher and by the class.

When Herbert Spencer calls education the subject which involves all other subjects and the one in which they should all culminate—he means the education of the school. But as we see school education does not include all education; it gives only the mastery of the tools of thought by which the pupil masters the wisdom of the race.

There are three epochs of school education—elementary, secondary, and higher. The first or elementary course may be said to open the windows of the soul; before school education the soul is, as it were, confined in a dark tower. Secondary education opens a new series of windows above those opened by elementary education, and higher education opens still another series far above the former. Let us look out of these windows of the soul and see the vistas opened before them.

1. Arithmetic is the foundation of our knowledge of nature by which we measure and count all things in their inorganic aspect. When its first principles are mastered the child begins to combine the organic with the inorganic, and it is necessary

to open another window to show him the provinces of elementary geography.

2. In geography as taught in the elementary schools there is an account of the distribution of animal and plant life. The phases of earth-formation, glimpses of the relation of the earth to the other bodies occupying space, the great processes which create climate—all things in short which have life, like plants and animals, and also all parts of great circular movements of process like the seasons, like the formation of the earth, day and night, the phases of the moon, the tides, and such matters; all these come in elementary geography. Geography treats of the natural differences, the inequalities of land surface, the formation of bodies of water, systems of drainage, climate, soil, and productions; and it treats of man and the instruments and devices which man has invented to equalize these natural differences. Being confined to a single locality he so manages it that he can avail himself of the products of *all* localities; he shall make accessible every place to the inhabitants of each place; he shall make all places habitable by creating everywhere the climate that he wants by clothing, fire, and shelter. He shall create a current of productions that goes out from each place to all places in the world by means of the world market and universal commerce; he shall continually by inventions make available for his use more and more natural productions, turning what was not wealth in its natural condition into wealth by manufacture and by transportation. The vegetable productions that grow in unsettled countries are not wealth to anybody; neither is the silver and gold, the iron and copper and coal under the surface of the earth; but transportation makes all these things into wealth. What an instructive view of the differences that exist on the surface of the earth and the differences that exist in the civilization of man is given to the child by his geography. He discovers the great processes of formation and organization that exist in nature and notes at the same time the all-conquering industry of man, guided by scientific intellect, to remove these inequalities.

3. In the elementary school the child learns also to read and

write and gets a glimpse of that great province of human learning called literature. The original colloquial vocabulary learned at home is variously estimated at from three hundred or four hundred to three or four thousand words, all of which deal only with commonplace things and events. The words of this vocabulary are loose and unfitted for scientific precision. They do not express science, nor do they express that great body of fine distinctions, delicate discriminations used by literature to reveal human nature; but they do serve as a body of apperceptive material into which may be translated and explained the techniques of the highest science and literature. The school takes this colloquial vocabulary as a key and opens the gate to the great reservoir of literature and science in books. It initiates him into the use of a class of words expressive of fine shades of feeling and thought. During the first two or three years (from the age of six to the age of nine) the child struggles mainly to get familiar with these wonderful instrumentalities which we call reading and writing, learning how to read the printed page and how to read and write the script page. The difficulty is so great in the first place to familiarize the child with the printed and written forms of words that he has known only by the ear, that he should not be expected to become familiar with the higher vocabulary from the beginning. But he must be gradually initiated into this. In the course of three or four years in the elementary school the child will add to his own the vocabulary of geography, arithmetic, many technical words from other sciences and the most important words and phrases of literary writers who have written intense passages describing situations of the soul and explorations of thought which may be understood by children and uneducated people. These situations and thoughts, which before he had no means of expressing, and hence no means of objectifying to his mind, now become utterable and to a great extent thinkable by the child who reads in the school readers. The writers who hold their places in literature have seen nature from a point of view different from that of the child, and they have presented their thoughts in gems of literary style. Such gems of style have been explored and collected by compilers of school readers, and the child has a collection numbering some two hundred of what is best in the literature of the language. Every one of them adds to the child some new insight and gives him the power to express it. Literature lifts up the pupil to the window which looks out upon human nature and discloses the motives which govern the actions of men. It shows how these actions begin in mere feelings; by and by these feelings become clear ideas and then convictions; lastly they become actions.

Literature gives us this, the most important of all intellectual views, and yet Spencer puts this third study of the elementary school last among the items of knowledge of most worth. After learning all that science has to give, after learning one's trade and the care of his body, Spencer would permit literature and art—"if there is leisure for it." He can see nothing except idle amusement from this window of the soul. But the philosophic educator, the man who studies scientifically, will readily see that literature is the greatest educator that we have. Newspapers, periodicals, and books, with pictures of human life and the motives governing our actions, go to make the public opinion which rules in an age of freedom; only tyranny and absolute despotism can exist where public opinion is not based upon free discussion and a true insight into the motives of one's fellow-men.

4. The fourth window of the soul opened in the elementary school is grammar, wherein the child is made to get a glimpse of the logical structure of language in which is revealed the logical structure of the intellect; he gets a power to discriminate and hold fast the distinction between what is said and the form of saying it. He gets a scientific glimpse of the forms or laws of all speech. He learns to separate the sound, or the printed form, from the meaning which he gives to the word, and he learns to see the form or law which belongs to his mind and gives it a logical structure; he discriminates verbs, nouns, adjectives, adverbs, pronouns, and connectives, a kind of discrimination which he is not able to do at all except by introspection. The child gains very

rapidly in his power of introspection by his study of grammar; it is undoubtedly the hardest study that he has yet reached in his course. In arithmetic he is obliged to discriminate quantity from quality and learns to think in directions of quantity alone. This is a severe discipline, but it is not so difficult for him to learn as the discrimination between the printed or spoken word and the kind of meaning which the mind gives to the word.

This grammatical discipline which seems useless to many people in our time is one of the most useful of all the branches of study in the common school; the grammatical study opens the windows of the soul looking inward and revealing the structure of the soul just as outward sense and the sciences of nature reveal the structure of the earth and the elements of matter. It is necessary to train the power of introspection thru grammar in order to enable the human being to discriminate what is only blind feeling and prejudice from clear ideas and principles; without which power of introspection motives cannot be purified, and especially the ethical and the moral cannot be discriminated from mere instinct and selfish impulse.

5. The fifth window of the soul is history, which the child takes up in the last years of his elementary school course. In history he sees revealed the aspirations of his countrymen; and in it he sees also his own instincts and proclivities. All these are written out in colossal letters as tho on the blackboard of the universe. It is the greatest spectacle to behold—the spectacle of a colossal individuality, namely, the state, the nation, made up of separate individuals each one selfishly pulling in his own direction and yet realizing one social person. The colossal whole is a giant human being—*E Pluribus Unum*—an individuality with deliberative power; with will-power; intellect and will forming a personality. These windows of the soul, according to our analyses, give the child five great revelations of the world in which he lives—the world of nature and the world of man.

I confess that I was greatly surprised at the result of my first investigation of the items in the course of study in the elementary schools. I was surprised to find that instinct and practical endeavor, not guided by a philosophical survey of the subject, had settled down into substantially the same requirements in the common schools everywhere; that they had two branches of study that related to nature, one to the inorganic, namely arithmetic, and one to the organic, namely geography. That they had everywhere school reading matter which secured with more or less efficiency the reading of the gems of literature, after a course of study which familiarized the child with the printed forms of his colloquial vocabulary; and that, fourthly, a study of formal grammar was universally adopted as a training in introspection and a preparation for the many introspective activities which practical life requires; and that a fifth branch, a study of the history of one's native country is required substantially in all elementary courses. The more I studied these five different branches the more I saw that they covered the entire horizon of the child's substantial life. For history showed the child his institutional life and the greater self of the social whole which made possible the life of his little self, the individual. Each one of these branches had its own pedagogical form which could not be acquired by any one of the other four branches. They were really therefore separate windows of the soul co-ordinate with each other and five in number. Secondary education, to my still greater surprise, proceeded on the same line. Arithmetic opened up further in mathematics to algebra and geometry, algebra dealing with general numbers, or rather with the forms of calculation, while arithmetic dealt with definite numbers. Geometry dealt with space relations and physics dealt with the elementary forces and their quantitative measurement, giving one the insight into the method of making and using the machinery by which man conquers nature. Botany, zoölogy, and the natural sciences which help one to understand the earth processes continue the study of geography, and it is usual in secondary schools to use a text-book bringing to bear such portions of those sciences as throw light on geography into a text-book called physical geography. Then the third branch, or literature, was continued and differentiated in a compend called history of literature—and by taking up the two literatures (namely, the Latin and Greek) which have exercised the most powerful influence upon our civilization. From the history of the United States the secondary course of study goes on into a compend of general history, studying with more care the Greek and Roman histories and the history of Great Britain, the parent nation from which our own originated.

Here we come to the consideration of the chief point made in Spencer's noteworthy book on *What education is of most worth,* namely, his attack on the study of the classics which forms the staple branch in the course of study of secondary and higher education. Without leading up to this question, I will say at once that Greek and Latin open a great field of study into what may be called the *embryology of our civilization,* using an important technical term borrowed from biology, Mr. Spencer's strongest special field of work. In the three dead languages we have the three great threads which run thru the history of human progress. The Greek, with its literature and æsthetic art, its philosophy and its beginnings of science, shows the higher forms of human freedom in contrast with Egyptian civilization. Egypt showed only the struggle for freedom, and it never was able to portray human nature as separated from the animal and the inorganic world. Greek genius presents art and literature on the one hand and the forms of reflection, science, and philosophy on the other, but not the essential activity of the human will. But Rome shows us a thousand years' study and experiment in determining the forms of the human will which enable the individual to organize the social whole into a nation or municipality, a higher individual, a giant man who can re-enforce the individual. By this devotion to the forms of the will the Roman becomes the greatest specialist that has ever been known in that one province of the forms of the will: discovering the laws which make possible the acquirement and transfer of property and its full enjoyment. And besides this the forms of law are discovered, which make the nation perfectly strong against attacks from within and attacks from without. The individual's life and property are held subject to the demand of the state for its protection. When the state is safe the enjoyment of property is free. When the state needs the individual and his property they must both be sacrificed for the safety of the whole. On the basis of this insight into free ownership of property and the supreme right of the state have risen all modern nations. They have developed further the freedom of the private individual within the circle of his property and also his rights and duties as regards the supreme power of the state. Added to the Roman contingent in modern civilization is the Greek contingent containing on the one hand the scientific insight and on the other hand the literature and art insight.

The study of Greek and Latin in secondary and higher education in all modern civilized nations may therefore be regarded very properly as a study of the embryology of our civilization. Herbert Spencer himself would believe in studying the tadpole from its first condition in the egg of the frog up to its final transition into full frogship. This would be the embryology of the frog. He would study the embryology of the turtle thru all its conditions from the egg upwards to the full turtle. Embryology deals in the same way with the butterfly thru all its caterpillar and cocoon stages. Mr. Spencer should have seen that if education gives one a sort of theoretic knowledge of his civilization, a consciousness of his growth and development in the past ages thru the social whole, it should consist largely in a study of the embryology of the civilization in which he lives. This would have at once given a luminous principle which would have explained the higher education as it exists and it would have made apparent its rationality.

Another language having this essential culture value will occur to everyone, namely the Hebrew. It would be impossible to understand the civilization of the past two thousand years without a thoro acquaintance with the Old Testament, and it is well that a large quota of the population learn to read the Hebrew language. To read the language of a people may be stated symbolically as a putting on of the spiritual clothing of the people who originated the language. Each nation has its spiritual individuality, and it has impressed that individuality upon the language which it invented. To study the Hebrew and speak it is to wear the spiritual clothing of the chosen people of God. Of course very much can be obtained of the spirit of those peoples by reading their literature; the literature of Plato, Homer, Herodotus, and Aristotle give us in a great measure the correct idea of the Greek principle; so a reading of Livy, Horace, Vergil, and Cicero initiates one into the inner motives of the Roman character; and all the nations that enter our modern civilization have learned thru the literature of the Old Testament the inner spirit of the religion revealed in that book. But it is not so much thru the literature as thru the direct use of the language, the putting on of the spiritual clothing of a people, that the pupils of our schools learn the embryology of our civilization.

In the light of this study after the manner of biological research we see why school education has formed for itself the course of study as it is. We see also how hopeless is a crusade against this course of study with the light which Herbert Spencer throws upon it. Not knowing why the unconscious minds of the directors of education have taken the line followed in secondary and higher education, he takes for granted that there is no adequate reason for it, and proposes to abolish their work entirely. But it is evident that his inventory of our civilization is an utterly inadequate one; he omits from view the most important of all elements of human nature. He does not see that literature and art, exclusively devoted to the portrayal of human nature in its transmutation of feelings thru thoughts into deeds, are necessarily the central branch of study in the school education thruout its entire course. It does not occur to him to consider the method of his favorite science, biology, and he therefore does not see that Latin and Greek and the Hebrew Oracles are in our education a study of the embryology of civilization just as the study of growth of animals and plants as eggs and seeds furnishes the explanation of their development and shows the present trend also—for embryology is prophetic as well as historic. In secondary education we begin to come to the study of this spiritual embryology. In the higher or collegiate education we come to the comparative method of research; each branch is more or less studied in the light of its own history, and each branch is studied in the light of the other branches in the course of study. In a word, the philosophy of each subject is learned.

Natural science and sociology are investigated, logic and mental philosophy, ethics and rhetoric, the philosophy of history and of literature; these furnish the light of the whole method of education. But the five windows of the soul opened in the elementary course of study and the five windows opened above these in secondary education all correspond to the five directions of the higher education which has its study of history (world-history instead of the history of one's native land), its study of literature and art; this time of the world's literature and art instead of home literature and art; its study of grammar, but this time of the comparative grammar of the languages instead of the grammar of one's own native tongue; instead of arithmetic or algebra or geometry it studies the analytical method of mathematics, and learns how to seize functions of motion and bring them by the transformation of equations into numerical results. It studies the special methods of the organic sciences, geology, botany, zoölogy, ethnology, and the others.

Above the college as a higher institution of culture stands the system of post-graduate work belonging to the university proper, wherein original investigation and minute specialization are the chief ends sought. Each person in the university strives to select a province in which by his original investigation he may add something to the store of human knowledge. He shall know all the researches of his fellowmen in this department, and his own labor shall throw light on some new phases of it.

Elementary education is necessarily superficial, being a consideration not so much of principles as of typical facts. The teacher shall have selected the important facts as landmarks for the course of instruction in the first eight years of school work. In the third four years of work, including what is called secondary instruction, there is more insistence upon the method of reflection, the method of finding the principles which lie at the basis of the facts considered. There is a seizing, in a more adequate manner, of what is scientific. In the third or higher education the unity of human knowledge and the comparison of each branch with the rest and the explanation of each by the whole are attempted. The mind is balanced by this course of study and the student is prevented from placing an undue estimate on the importance of what is in itself subsidiary. Give the pupil a knowledge of the embryology of civilization and his insight into the course of modern history is aided. Educators, it is true, have adopted the course of study as it exists, not so much by a rational investigation as by an unconscious selection prompted by a blind impulse. But Herbert Spencer should have investigated and discovered its purpose, which is a far deeper one than he has thought out, when he advocates its overthrow for the sake of knowledge that leads to direct preservation. Had he been studying the habits of bees and ants he would have taken for granted that these habits have a deeper explanation than what he would expect to find in the consciousness of those insects. It increases our surprise, in fact, when we remember that Spencer as well as Darwin searched for the explanations of the habits of men in reasonable precautions adopted in prehistoric days and whose rational purpose had long since been forgotten. He supposed, in fact, that Latin and Greek had been useful once as the language of learned men, and that these branches had been retained in the course of study much as the habits of former days had been retained when their conscious purpose had long since ceased to exist.

Our study of Spencer's inquiry into what knowledge is of most worth leads us to a very different result from that reached by him, but we must admit that the question is left open for very much more investigation.

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III

EDUCATION AND THE SOCIAL IDEAL

When education is consciously regarded as a process of social transformation, the educational necessity of a definite conception of the social end to be attained thru education becomes apparent. The school cannot consciously assist in transforming society unless the teacher has clearly in mind an ideal humanity into which society is to be transformed. Such an ideal, more or less conscious, is doubtless in the mind of almost every teacher. The educational demand is not supplied, however, by the mere presence in the mind of the teacher of a social ideal irrespective of its content. It must be a practical ideal, and an ideal upon which there can be common agreement. Only a social ideal which is held in common by all teachers can really unify our educational forces. The social ideal which should serve as reference for all the work of the school should therefore be an ideal based upon a careful and scientific study of social desirabilities and possibilities. It should be the best and the truest social ideal which the most advanced knowledge of social development and modern social conditions enables us to construct.

Now, the construction of a social ideal which deserves to win general acceptance is properly the work, not of education, but of sociology. Sociology usually professes to be a scientific study of what society is and has been, of the manner in which it has become what it now is, and of what it will become under given conditions. It studies not only the origin and growth of society and social institutions, but also their tendencies. Sociology is therefore the science from which we should naturally expect some expression of opinion in regard to what society ought to be. Out of its knowledge of social facts and possibilities it should be able to construct a social ideal to serve as the best possible standard for comparing and judging existing institutions, as a test for all proposals regarding social reform and for individual conduct, and as the ultimate aim of the school. This is one of the points at which education is dependent upon sociology.

Sociology, however, has not yet presented a social ideal for which it is ready to stand sponsor. Some sociologists even maintain that the projection of such an ideal is a task with which they have nothing to do. They limit themselves to a description of social phenomena, and to an investigation of the laws underlying social development, without attempting to determine what ought to be, or how these phenomena may be modified in the direction of the ideal. Does it not seem, however, that a careful study of the social evolution of the past ought to give us some conception of the probable direction of the social evolution of the future? And that a knowledge of what is ought to lead to some idea of what should be? The sociologist may not be able at present to set up a definite and complete social ideal which it should be the object of all social effort to realize. He will hardly be expected to be wise enough to forecast exactly what society will be, ultimately or immediately. No one is capable at present of declaring precisely what society ought to be, or of predicting exactly what it will be. And yet we may reasonably expect sociology to formulate with increasing definiteness a social ideal toward which the work of the school may be directed.

The task here assigned to sociology is, of course, a difficult one, and must be left to pens more competent than mine. I have neither the knowledge requisite for constructing a scientific social ideal, nor the imagination to portray, after the manner of the Utopian philosophers, an ideal society with all its details. Such imaginative pictures are not without their value, but they are more inspirational than practicable. I do have the temerity, however, to point out a few of the elements which, I think, must enter into a rational and realizable social ideal, and to suggest that the school is not doing all that it ought to do to develop them. According to my conception of an ideal humanity, there are at least three of these elements. They are (1) a high degree of social intelligence, (2) an improved social organization resulting from social economy, and (3) the co-operative spirit. The work of the school should be consciously directed toward the realization of a society in which these three elements find their highest manifestation.

The first of these elements, namely, social intelligence, is a manifestation of the social consciousness with which it develops *pari passu*. It denotes the ability of society to act in the interest of its members. Thus far its growth has received little conscious attention. The study of past social development reveals the fact that the path of the natural processes of social evolution leads to higher development of the psychical unity of society. "The collective consciousness," says De Greef, "is a natural and successive formation, a becoming, a progress each step of which is marked by an unconscious consolidation of acquired activity as a point of departure toward a new conscious activity."[1]

The development of the consciousness of the individual is the natural outcome of his experience in looking out for himself. The similar experience of each social group warrants us in assuming that social progress may be depended upon to develop the consciousness of each group, and this consciousness will manifest itself in the gradual formation of the social intelligence, which has been defined as that "consensus of individual intelligence which forms a public opinion, a public conscience, a public will, and is manifested in law, institutions, and administration." The intensification of the social consciousness and the improvement of social intelligence seem to be the inevitable concomitants of further social development.

Those who accept the evolutionary hypothesis will not need to be convinced that social intelligence is a natural product of social development. They will be aware, too, of the fact that the present stage of development of the social mind is low, hence the frequent extravagance of social action. It has often been pointed out that the social organism, with respect to its psychic development, resembles the lowest forms of animal life, such as have no brain to preside over and co-ordinate their various activities. According to the theory of evolution man himself, so far as his intelligence is concerned, was once in the condition of these low forms of life, but by a succession of experiences his intellect was evolved. This intellect, to a considerable extent, controls his impulses and guides his activities. It made its appearance as an instrument for attaining individual ends. In this respect it is like the teeth or claws of the animal. It is thru the influence of association, however, that it has made its most rapid strides. An inevitable result has been a growing correspondence of individual and social interests. Consequently individual intelligence is by the natural process of social evolution gradually becoming socialized. We have now become conscious of the value of social intelligence, and have consequently applied means for increasing its development. We may therefore reasonably expect the continuance, with ever increasing rapidity, of the integration of individual intelligence into what may be properly called social intelligence. We disregard no principle of nature, therefore, when we declare that the development of the social consciousness will continue and that social intelligence will increasingly manifest itself in society. The ideal society will be ideally intelligent.

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[1] *Introduction à la sociologie*, ii: 433.

Granting that the ideal society will manifest a high degree of social intelligence, we are by logical necessity forced to admit that this intelligence will result in the social employment of the principle of economy. "The history of progress," says Ritchie, "is the record of a gradual diminution of *waste*." The elimination of waste is a characteristic of intelligent action. Progress in individual or social intelligence may be measured by the degree of economy practiced. The social progress thus far achieved, whether natural or artificial, has chiefly consisted in the process of the gradual conservation of energy. This process must continue *pari passu* with the development of social intelligence. For it is only thru a better, that is to say, a more economical, use of social forces that improved social intelligence can manifest itself. We are thus inevitably led to the recognition of the fact that an ideal social condition implies a better organization of society, in industry, in politics, in religion, and in education, than that of to-day. Certainly an improvement in the organization of social activities is a desired end. No one can look upon the modern methods of industry, for instance, without realizing the enormous waste which they involve. Ill-directed and unemployed labor, wasted capital, and the destructive use of the soil are visible on every hand. If an individual should carry on his business as the general business of any civilized country is conducted, he would inevitably fall into bankruptcy. To avoid the waste characteristic of social development under the natural process, the social intelligence must be applied like that of an individual in private business. The object for which a good business manager constantly strives is the elimination of waste. If this is good business policy, it is good social policy. The principle of economy applies to the development of society as well as to that of the individual. Without committing ourselves, then, to any definite prediction as to the form which future social organization, industrial, political, or religious, will take, we may confidently assert that increased social intelligence must manifest itself in an improved social organization, an organization in which there will be less friction, less working at cross-purposes, less waste. A higher degree of social economy consequent upon improved social organization is, then, a second element which must enter into a rational social ideal. The ideal society will be rationally organized and therefore economical.

The third indispensable element of the social ideal is the co-operative spirit, and this element is implied by the other two. As social organization is the necessary result of social intelligence, so the co-operative spirit is necessarily demanded by an improved social organization. It may be possible, of course, to organize the forces of a society under a régime of compulsory co-operation, but compulsory co-operation in the attainment of a worthy social end implies the absence of socialized intelligence on the part of the individual. It means either that the social ideal conceived is not a rational one, or that the individual is not intelligent enough to see that his interests are bound up in its realization. Voluntary co-operation alone can eliminate the waste of human effort and of the forces of nature characteristic of modern society. Men must strive with each other for the common good, and not against each other for individual profit. Nothing else will make possible ideal social economy. The ideal society will be co-operative.

The development of an ideal co-operative spirit in human society, which implies the transformation of the competitive type of man into the co-operative type, will be a process of years, if not of centuries. Indeed its very possibility may be denied. There are those who still maintain that competition and not co-operation is the essential element in an ideal social condition. Competition, they say, is the mainspring of human progress. Without it there would be neither individual nor social advancement. The growth of the co-operative spirit implies the decadence of the competitive spirit, and this, they think, is equivalent to a retardation of social progress. Competition, however, may be divided into a rivalry in securing individual advantages,—profit, social or political preferment, and the like,—and a rivalry in promoting the common good. As a rivalry in the attainment of primarily individual ends, as strife between man and man, it is a transient phenomenon in human society, and must give way to co-operation as rapidly as social intelligence is developed.

In asserting that competition in this narrow sense is destined to give way to co-operation, I do not wish to be understood as denying that this kind of competition has been and now is a most effective factor in individual and social development. In the subhuman realm, in the form of the struggle *à outrance,* it resulted in the elimination of the unfit. The competitive struggle is, indeed, among the lower animals the chief instrument in promoting individual progress; and the same must be conceded with reference to unconscious social development. "In the struggle for existence among societies," says Mr. Spencer, "the survival of the fittest is the survival of those in which the power of military co-operation is that primary kind of co-operation which prepares the way for other kinds." And he goes on to say that the "destruction or absorption of the smaller un-united societies by the united larger ones is an inevitable process thru which the varieties of men most adapted for social life supplant the less adapted varieties."[2] Every student of social development will agree with this author when he says: "Knowledge of the miseries which have for countless ages been everywhere caused by the antagonisms of societies must not prevent us from recognizing the all-important part these antagonisms have played in civilization. Shudder as we must at the cannibalism which all over the world in early days was a sequence of war; shrink as we may from the thought of those immolations of prisoners which have, tens of thousands of times, followed battles between wild tribes; read as we do with horror of the pyramids of heads and the whitening bones of slain people left by barbarian invaders; hate as we ought the militant spirit which is even now among ourselves prompting base treacheries and brutal aggressions; we must not let our feelings blind us to the proofs that intersocial conflicts have furthered the development of social structures."[3] And yet, granting that this is true, it does not follow that this kind of competition is essential to human advancement. It means only that strife has been an effectual agent in progress in the absence of anything better.

Admitting, then, that brutal competition, both individual and social, has been instrumental in promoting progress, should we not endeavor to conserve it in the interest of future social development? This is one of the common mistakes of those who reason about social matters. Because a thing has always been they conceive that it must always be. Whereas the fact that, under the natural process of development, a thing has been so or so, is *prima facie* evidence that it ought to be changed. This is but to say that man's work is to improve upon nature. Competition has indeed been a strong factor in social development, but so also have tyranny, slavery, and cannibalism, and all the various forms of exploitation. Must all these go on because, in the absence of social intelligence, they have served a purpose in social development? Mr. Spencer has seen the absurdity of such a supposition, and has expressed himself as follows: "While this merciless discipline of Nature, red in tooth and claw," he says, "has been essential to the progress of sentient life, its persistence thru all time with all creatures must not be inferred. The high organization evolved by and for this universal conflict is not necessarily forever employed to like ends. The resulting power and intelligence admit of being far otherwise employed. Not for offense and defense only are the inherited structures useful, but for various other purposes; and these various other purposes may finally become the exclusive purposes. The myriads of years of warfare which have developed the powers of all lower types of creatures have bequeathed to the highest type of creature the powers now used by him for countless objects besides those of killing and avoiding being killed. His limbs, teeth, and nails are but little employed in fight; and his mind is not ordinarily occupied in devising ways of destroying other creatures, or guarding himself from injury by them."[4] This is additional testimony to the fact that the form of competition that has served Nature's purposes in the past need not necessarily be continued in the future.

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[2] *Principles of sociology*, ii: 280.

[3] *Principles of sociology*, ii: 231.

As to the natural development of the co-operative spirit, it would be easy to show that in evolution the principle of co-operation is almost coeval with the principle of competition, and that from the dawn of society which owes its origin to that principle it has been steadily advancing, while competition has been receding, or, at all events, has been undergoing a process of modification. Life, indeed, began with a single cell, but no forward step was taken until the principle of sexual co-operation was introduced. This marks the beginning of a factor whose operation, even in the subhuman world, is as plainly visible as the principle of competition. Mr. Darwin himself presented many beautiful instances of co-operation among plants, and many writers since his time have shown that mutual aid is as much a law of animal life as mutual struggle. No one perhaps has revealed this principle more clearly than Mr. Kropotkin, who declares that "under any circumstances sociability is the greatest advantage in the struggle for life. Those species which willingly or unwillingly abandon it are doomed to decay; while those animals which know best how to combine have the greatest chances of survival and of further evolution, altho they may be inferior to others in each of the faculties enumerated by Darwin and Wallace, save the intellectual faculty. The highest vertebrates, and especially mankind, are the best proof of this assertion. As to the intellectual faculty, while every Darwinist will agree with Darwin that it is the most powerful arm in the struggle for life, and the most powerful factor of further evolution, he also will admit that intelligence is an eminently social faculty. Language, imitation, and accumulated experience are so many elements of growing intelligence of which the unsociable animal is deprived. Therefore, we find, at the top of each class of animals, the ants, the parrots, and the monkeys, all combining the greatest sociability with the highest development of intelligence. The fittest are thus the most sociable animals, and sociability appears as the chief factor of evolution, both directly, by securing the well-being of the species while diminishing the waste of energy, and indirectly, by favoring the growth of intelligence."[5] We see, then, the power and the prevalence of sociability and co-operation within the group. They have gradually changed the form of the competitive struggle. The individual struggle for existence has been modified, says Professor Huxley, to a struggle for enjoyment. Primitively it was brawn against brawn. To-day it is brain against brain. This modification of the competitive struggle within the group must continue as the natural result of association, and the struggle of group against group is destined to undergo the same transformation.

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[4] *Principles of sociology*, ii: 241.

It is a mistake, then, to suppose that competition—I mean, of course, competition in the narrow sense—is an eternal and immutable law of nature. There is no "law of competition," if we mean by that expression to describe an unchangeable method of social progress. All that is demanded by nature to produce social evolution is effort or action. "Nature," said Goethe, "knows no pause in progress and development, and attaches her curse to all inaction." Hitherto and now competition has been necessary to action, and it probably will remain so for a long time to come. It does not follow, however, that as a stimulus it cannot be superseded by another stimulus that will be more in accordance with a true economy. In the light of past development, then, it may be safely asserted that competition as a rivalry for social benefits is doomed. The future belongs to co-operation or, if it is preferred, to the rivalry in social service. Co-operation means co-working; co-working develops community of feeling, which is sympathy, and sympathy is the basis of love. "Blessed are the meek, for they shall inherit the earth."

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[5] *Nineteenth century*, xxviii: 711.

The conclusion here arrived at is not a sentimental one. It rests on a strictly scientific basis. Darwin himself suggested it when he said: "Important as the struggle for existence has been, and even still is, yet as far as the highest part of man's nature is concerned, there are other agencies more important. For the moral qualities are advanced either directly or indirectly much more thru the effect of habit, the reasoning powers, instruction, religion, etc., than thru natural selection."[6] John Fisk, too, maintained "that the universal struggle for existence having succeeded in bringing forth that consummate product of creative agencies, the human soul, has done its work, and will presently cease." Struggle is the only desideratum, and we need have no fear but that nature will always present sufficient opportunity for that. "If we are still reminded that only thru struggle can mankind attain any good thing, let us remember that there is a struggle from which we can never altogether escape—the struggle against nature, including the blind forces of human passion. There will always be enough to do in this ceaseless struggle to call forth all the energies of which human nature at its very best is capable. At present, how much of these energies, intellectual and moral as well as physical, is wasted in mutual destruction! May we not hope that by degrees this mutual conflict will be turned into mutual help? And, if it is pointed out that even at present mutual help does come about even thru mutual conflict, indirectly and with much loss on the way, may we not hope to make that mutual help conscious, rational, systematic, and so to eliminate, more and more, the suffering going on around us?"[7]

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[6] *Descent of man*, 2d edition, p. 618.

The social ideal, then, the aim which should direct the educational process and serve as reference for all educational practices, is an ideal humanity involving perfected social inintelligence, social economy, and voluntary co-operation. These are the general characteristics of the social ideal which the school should consciously endeavor to realize. The social function of the school is to develop as rapidly as possible these formative elements of an ideal humanity. All its work should be judged in the light of the demands which this ideal makes upon it. Now what, we may ask, is the school consciously doing to realize the social ideal in which social intelligence, social economy, and co-operation are the leading elements?

Obviously social organization is not directly the work of the school; consequently, we may limit our inquiry to the question of what the school is doing to develop social intelligence and the co-operative spirit.

As to social intelligence, we may say, in the first place, that the school is necessarily, with reference to knowledge, a distributing point. It hands down to the rising generation our intellectual heritage. Its aim, however, is usually regarded as the discipline of the intellectual faculties rather than the distribution of knowledge. This idea of discipline is sometimes carried too far. It is so easy to declaim against "cramming," and so many denunciations of it are heard, that one might be led to believe a true education consists in developing the mind without imparting information. It should not be forgotten, however, that one function, if not the function, of our school system is to distribute amongst the members of society the most important knowledge that has already been accumulated.

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[7] Ritchie, *Darwinism and politics*, p. 82.

Now an examination of school curricula will reveal the fact that, on the average, the school falls short of its proper function as a means of distributing the most valuable extant knowledge. How much really valuable knowledge has the average high-school graduate? Enough Latin, perhaps, to have acquired an everlasting dislike for it; a smattering of one or two foreign languages, and a doubtful acquaintance with his own. This, together with an introduction to the elements of the natural sciences and mathematics and more or less information about history, civics, and literature, practically includes what he has learned in the process of leading out his co-called faculties. No one will question the importance of culture, discipline, development of power, character, etc., as legitimate aims of the school; but, at the same time, it should perform more consciously than at present the distributing function, which, from the social point of view, is equally important. And when it does this, far more attention will be paid to the social sciences than is devoted to them now.

The mere distribution of knowledge, however, may not result in the development of social intelligence. Social intelligence demands, to be sure, the diffusion of knowledge, and especially of knowledge about society. But no matter how intelligent individuals may be, there will be no integration of the social consciousness so long as individuals are moved by the spirit of selfishness. A great function of the school, then, is to socialize the knowledge distributed; that is, to give it a social value. The socialization of intelligence, however, is but a step in the transformation of the individual from the competitive to the co-operative type, and this the school should consciously attempt to do. The typical man of to-day is the competitive man; in other words, the fighter. His motto is that of the ancient Scottish family, "Thou shalt starve ere I want." His successes are dwelt upon and exaggerated, and his career is held up for emulation. "For eighteen centuries," says Ritchie, "a gospel of peace and brotherhood has been preached and *talked:* but the child plays with a toy gun and the youth sees the successful millionaire held up as his model for imitation—the man who boasts that he is 'self-made,' and who, as the American remarked, has by that boast 'taken a great responsibility off the Almighty.' Not only education, but the very amusements and worthy exercises of the school life are all infected and corrupted by this diseased spirit of competition." [8] It is sometimes said that all the world loves a lover, but it is still more true that all the world admires a fighter. The man on horseback is the popular hero. This is easily explained. Competition has in the past, as was said before, been the law of life. Generally speaking, the race has been to the swift and the battle to the strong. Society has unconsciously developed as a result of the clashing of individual interests. The interests of superior men were to a certain extent the interests of the race; hence there is a considerable amount of truth in the great-man theory of history. Society owes, or thinks it owes, a debt of gratitude to those who have lent their energy and strength to nature in the accomplishment of her purposes; that is, have expanded themselves in wasteful competition until she has forged in the heat of competition strife better instruments of progress. All honor to the so-called man of action, for it is to action that evolution is due. But more rapid evolution will follow more intelligent action; that is to say, co-operative effort. Competition is now giving way to co-operation. Education should hasten the movement. It should strive to produce a different type of man; a man who employs his energy and talent in assisting his fellow-men to higher usefulness rather than in rendering their efforts nugatory or futile; a man whose motto is that of the English prince, "Ich dien," and whose conduct illustrates his motto. That is to say, education should assume what some regard as the impossible task of changing human nature. To those who accept the evolutionary theory, however, there is no impossibility about such a task. "The intelligence which has converted the savage and rapacious wolf into the faithful guardian of the flock," said Professor Huxley, "ought to be able to do something toward curbing the instincts of savagery in men," and he instances the suppression of the sexual instinct between near relations as illustrating the modifications which the natural tendencies of men may undergo by training.[9]

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[8] *Darwinism and politics*, p. 54.

It may be said that these modifications have been brought about by natural selection and not by education, by nature and not by man, but when we remember that education is itself a factor in natural selection, this objection loses its weight. Whatever the agent we know that the work has been performed, and a knowledge of the process should enable man to undertake it for himself. We have been inspired by the old adage, what man has done man can do, but there is no less truth, and even more inspiration, in the thought that what nature has done man can do better.[10]

Now modern education, in spite of the efforts of the more enlightened educational thinkers, is chiefly engaged in developing the competitive type of individuality. The competitive man—the warrior, the "successful" man—is held up for emulation. As a concession to the demands of modern commercialism it often introduces in the schools the very social situation which in theory it condemns. It relies on artificial stimuli to secure the action necessary to individual and social development, and these are the stimuli of selfishness. Prizes, marks, honors, distinctions, which encourage invidious comparisons, and other forms of stimulating the competitive spirit, even to the enjoyment of the envy of others, take the place of functional pleasure in acquiring and using knowledge, and the gratification which always comes from successful cooperation toward a worthy end. "Prize-giving," says the author of *Scientific meliorism,* "brings with it two injurious sets of effects, the one negative and the other positive. On the negative side it diverts the attention from the simple pleasures which are the natural reward of effort, thus preventing the forming of an all-important association of ideas; whilst on the positive side it creates a craving for something over and above the natural reward of effort, and so gives to humanity an artificial requirement." And she proceeds to illustrate the matter as follows (p. 356): "In a class of fifty boys let us suppose that half of the number possess the temperament called nervous sanguine (and are therefore highly excitable), whilst the other half are nervous lymphatic. The former are thrown by the competitive system into an excited state of keen pursuit; the latter, incapable of the strain, are discouraged, and fall into languor and indifference. The state of keen pursuit is analogous to the attitude of mind in a savage hunting for prey. It is the barbarous predatory instincts that are aroused in the child. The prize is before him, he sees that alone; his intelligence is narrowed, it will be receptive of nothing but what relates to the prize; his feelings are cruel in their blank indifference to the desires of his companions; and when success crowns his efforts, the pride he feels has nothing to do with knowledge gained; it is the innocent, but quite uncivilized joy of an ancient Nimrod who has beaten his fellows in the field.

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[9] See *Evolution and ethics*, p. 85, and note 23, p. 116.

[10] The idea of the impossibility of changing human nature has been keenly satirized by Mrs. Charlotte Perkins Stetson in a poem entitled "Similar cases." See *In this our world, and other poems*, p. 72.

"But the barbaric instincts of the chase are not confined to the bosom of the successful young Nimrod. The unsuccessful young competitors are secretly suffering jealousy and envy, those passions of the uncivilized man which modern education is bound to keep latent until they die out of the race, whilst the poor children who were never in the running are cherishing an inward sense of self-depreciation, which, if no counteracting influences intervene, will make them grow into craven-hearted, abject-spirited men and women, subject to the rule of any tyrant they are near, or slaves to the tyranny of senseless fashion.

"My contention, then, is this, that in order to make prominent the natural rewards of intellectual effort, and to bring into play all the gentle and pleasurable emotions that are appropriate to civilized life and the charm of which must be experienced early to prove effective in molding character, we must banish prizes from our schools, and firmly remove every species of artificial stimulus, replacing these, however, by the natural stimuli, and never relaxing effort in this direction until every child is freely responding to these natural stimuli."

Further changes involved in the conscious effort to transform the individual type in the direction of the co-operative spirit, and which are implied demands upon education when viewed as an instrument of social progress, need not be touched upon here. They have been emphasized by the lamented Colonel Parker in his insistence upon the necessity of making the school an ideal community, and have been illustrated by Professor Dewey in his experiment of modifying the curriculum and directing the organization of the school on the principle that the school is the most important factor in social improvement.

This brief consideration of the social aim and its demands upon the school has perhaps sufficiently indicated the fact that from the evolutionary standpoint the first requirement of a well-ordered system of education, and of the most skillful teaching, is the projection of an ideal humanity toward the realization of which education may be directed, and doubtless it will be admitted that there is room for improving the work of education by developing a deeper consciousness of its social function. If the social ideal suggested is a practical and a desirable one, then the school should be consciously employed to realize it. It should never lose sight, of course, of its immediate aim of developing to the fullest possible extent the capacities and powers of the individual. But it must keep ever in mind the necessity of socializing these powers, of realizing a double aim. This function of aiming at the promotion of social progress, while at the same time endeavoring to secure the highest possible individual development, may perhaps be fairly expressed by the word "socialization."

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IV

MY SCHOOLS AND SCHOOLMASTERS

In Hampton, N. H., in 1664, lived Edward Gove. With the seventh generation from that time, in the same town, I was born, and my father, with his young family, was the last to leave that settlement, where now evidence of the existence of my branch of the family is to be found only in the town records and on the stones in the village burying ground.

It is pleasant to read in this REVIEW for December last, from the pen of John Swett, that this town of Hampton, so prominently a part of the life of my ancestors, can " fairly claim the honor of beginning in New England the first typical, democratic, colonial common school which placed all children, boys and girls alike, on a common footing of equal rights to an education in reading, writing, and arithmetic."

I have learned that Albert G. Lane, the eminent Chicago superintendent, is also a product of old Hampton.

Whatever I obtained of schooling in those days was owing, quite as much as to school, to interest of my parents and especially to an ambitious and vigorous mother, who, as I look back, seems to me to have devoted her entire thoughts to her firstborn.

At the age of three years I entered my first common school in Hampton, N. H. I remember little of that school. I remember the calico tunic of indigo blue, dotted with white spots, which I wore when mother started me, with a little tin bucket of luncheon, to the schoolhouse more than a mile away. I remember the brick schoolhouse at the corner of the roads: the adjustment of seats in the schoolroom—the large seats at the back, the small seats in front, others ranging between them, rising step by step to the back of the room. I remember the high platform on which was the master's desk, standing high on four legs, under which frequently sat a culprit for punishment. I remember the pine grove back of the schoolhouse, where we spent our noon hour in summer, and the neighbor's well on the other side, from which the school bucket was filled with water for us to drink. But of the personality of the teacher or the routine of the school I have no recollection with one exception; I was found guilty of destroying, with my teeth, a new quill pen belonging to one of the large girls of the school—for which I was reprimanded.

Soon after my school was changed to the town school. This was the typical town school of New England—a brick house; thirty or forty pupils of all ages; taught by one teacher for three months followed by another—for the custom of changing teachers each school term was fixed. In winter the school was officered, as a rule, by some young fellow from Dartmouth, who got leave to come down from Hanover to earn money to carry on his studies at the college; in summer some academy-educated woman filled the position.

I was about six years old, well along in my work, owing to the persistent, never-ceasing efforts of that dear mother. I could read as well then as I can now, and knew as much as was possible for a country boy to know of the literature of the period. The text-books placed in my hands were Adams' *Arithmetic,* Porter's *Rhetorical reader,* Mitchell's *Geography,* and Peter Parley's *History.* This last-named book was my special delight, and my recitations from that text afford a delightful remembrance of my early school life. This schoolroom was arranged just as was my first school; rising seats and high platform for the schoolmaster; the little people in front, the big ones behind, on pine seats with desks in front, gradually disappearing, year by year, under the whittling of the jack-knives of the pupils who in turn occupied them.

I progressed, as I think of it now, remarkably in my studies. I understand the reason better to-day than I did then. Everything that was done at school was also done at home with my mother; in reading, much more. While not technically an educated woman, she was versed in that which pertained to elementary education, and when my arithmetic troubled, mother was able to see me thru.

I remember some of the queer punishments of that school, but am not sure that any were inflicted upon me. To hold a book at arm's length for a period of time until the body ached, was one. The master had found in the fields a rough granite bowlder of pyramidal shape, standing about fifteen inches from the floor. He was fond of compelling a fractious pupil to sit on the apex of that pyramid. It was not comfortable to rest the weight on that granite point, neither was it possible to take that sitting position without placing some weight on the top, and that was physical torture. I remember another, where the boy was to maintain a tenpenny nail in position, one end on the floor, the other end supported by the index finger of the boy. The least motion caused the nail to fall, followed by thwacks upon the back with a stick.

This must have been quite a modern school, because we were all well treated if we behaved. I do not remember ever having seen a girl punished in that school. The name of one of the schoolmasters was Watson.

When I was seven years old my ambitious mother determined that that common school was too common for her boy, and I was transferred to the academy at Hampton Falls, where my grandfather lived and in whose house I was born. This academy was an attractive, old-fashioned building; a large square frame structure, painted white with green blinds, surmounted by a comely belfry, from which bell-tower—morning, noon, and night—the people of the village were advised of the time.

The boys of the academy were assembled on the lower floor,—many of them young men,—in charge of the principal and his assistant; the upper floor was in charge of the preceptress, where only girls were assembled. This was a college-fitting school. Being a mere child when I was placed in the academy, I was assigned to the upper floor with the young lady students. The man who had charge of the academy was the Rev. Zebulon Jones, who was also the village pastor; the name of the preceptress I cannot tell.

Once in the academy, my mother saw to it that I was ushered into grave and eminent studies; of what they were I remember only one, from which I was graduated. The text was Parker's *Geographical questions,* a book of many pages, consisting of questions in geography, map questions. At the end of each question were placed the initial and final letters of the words of the answer. When I was ready, I was examined in Parker's *Geographical questions* which was the sum of all geographical knowledge in that academy, and with due glory it was announced that I had answered every question in the book correctly and had acquired all the knowledge of geography that was necessary.

I was now eight years old when a great change occurred; my father closed out all interests in the town of Hampton Falls, where his ancestors had lived from the beginning, and moved to Boston to engage in mercantile life; an unfortunate move, as it proved, and another illustration that 175 years from generation to generation, father to son, all blacksmiths, need scarcely expect to embark in new enterprises with success. My father in after-years returned to the forge, when he made an unsuccessful attempt to place his son in the ranks of the family vocation.

We went to Boston, father and mother and son and a daughter four years younger than the son. Here my mother met with a disappointment. Her darling boy and pride, who had been so eminent in his country school and who had been graduated in geography, was taken by her, as soon as the family was settled, to the Mayhew School in Boston. It was on Chardon Street. William D. Swan was the master, Mr. Battles the submaster, and Mr. Dorr the usher. A large brick building, two stories high, a large room below with contiguous recitation rooms on the first and the same arrangement on the second floor, was the school. My mother presented me to Mr. Swan and left me in his care. I was assigned to a teacher, Miss Rowland, and given a list of books required. The scene at home when I returned with the list of assigned books is one permanently fastened in my memory; the indignation of my mother, the calm, quiet attitude of my father, over the fact that I had been asked to come supplied with a *Second reader* and other corresponding text-books.

My mother was at the schoolhouse promptly in the afternoon. I was not present at the altercation; I only know that the next day I was in school with my *Second reader*, in Miss Rowland's class. My parents had to learn what so few, unfortunately,—especially in the West,—even now understand, namely, that the school authorities should be the absolute, and are the only competent and proper, judges of the classification of pupils.

In the second week I was taken from Miss Rowland's class and placed three years in advance, in Miss Moulton's class, it having been discovered that I was not properly graded. I remained at the Mayhew School, but the details of that life have gone from my memory. I remember, however, distinctly, Mr. Swan, who was of the noted family of schoolmasters; but Battles and Dorr and Moulton and Rowland are among the unknown characters.

The Mayhew school was a good one; the boys were well treated. I remember no excesses or abuses. One hot day on the 1st of July,—for the schools did not close until the Fourth,—with the mercury high, as it can be in Boston in midsummer, Mr. Swan caused the boys to bring several buckets of ice water into the schoolroom, which, after being duly seasoned with molasses and ginger, was passed around in cups to the few hundred boys; we enjoyed it much better than the futile undertaking of getting and reciting lessons.

The house was seated with one desk for two pupils, but each on a separate chair with an iron pedestal fastened to the floor, such as may be seen at the present time. The ink-well was sunk in the desk-top as now. The outline maps, charts, globes, and school apparatus generally in Boston in 1848 were superior to those in any other part of the country and adequate for the purpose. A long platform extended across one side of the room; at one end was the desk of the Master, Mr. Swan; at the other end the desk of the usher, Mr. Dorr; while at intermediate places were the desks of Miss Moulton and other teachers, who were in front of their respective classes.

Two recitations at a time went on in the room; one at one end with the master, one at the other end with the usher; the women teachers passed for recitations, with their boys, to adjacent classrooms.

I left the Mayhew School when my father moved to the South End, where commenced and ended in school by far the most powerful and decisive period of my life. But in the transition, for a few weeks, I was in the school on Cooper Street, under Master Jenks. My ultimate place was found to be in the Dwight School on Concord Street, where James A. Page was master of the boys on the upper floor, and George B. Hyde master of the girls on the second floor.

I fell into the class of Master Page, who to-day is at the head of the Dwight School, altho in another building on North Hampton Street, and whom, in the light of a lifetime, I regard as one of the greatest schoolmasters of the world. He was a young man, about beginning, when I made his acquaintance. The severity of his discipline would not be countenanced at present, even by himself. In that class were about thirty-five boys. Among them I remember especially Wendell Phillips Garrison, now of New York, eminent in the field of literature. He was, as a boy, eminent in the class. I remember his beautiful countenance and especially his somewhat remarkable power in the use of language. At that time he was poet of the class.

It was here that I first learned to study. It was the discipline of Master Page which trained the power of increasing the ability for concentration. No year of my life has been passed except some evidence of the training of that man has been patent to me and to my friends. I disliked him; I hated him with the thoro genuine boy hate. I do not remember that he ever punished me; I do remember his favorite method of punishment, which is yet a good one, altho perhaps abolished in the Boston schools. The culprit was made to bend over the desk so that the trousers fitted tight, then the strokes from the rattan were made to tingle and effect the purpose desired.

He never allowed us to leave school until the task was accomplished or darkness had ended the day. The great terror of my life was arithmetic; he made it an afternoon study, and four days out of every week for week after week, I remained in that schoolroom with Master Page because I did not, and really could not, get the arithmetic lesson. How I remember those agonized days of "partial payments."

One evil day my dislike had reached the point where I resolved to quit this vain world, and with fifty-four cents,—my own private treasury,—without change of clothing, I bought a ticket on the Boston and Worcester road as far as the train would carry me, and paying half-fare landed in West Springfield, Mass.,—a boy running away from home because he did not want to go to school to Master Page.

I preserved my incognito for a week. Then my bravery gave way to anxiety and I wrote to my father in Boston, telling him where I was and saying that I would return home to him if he would not send me to school to Master Page. I have learned since that, and now know, how wicked was that act and how terribly was my mother grieved by the unknown whereabouts of her boy. My father's treatment of me at that time is worthy of record.

The first train that reached West Springfield from Boston, after he received my letter, brought him to the town. I saw him coming up the village street, in his hand a large valise. He came to the door of the house where I was stopping and knocked, and the man who was befriending me went to the door. I stood behind, reaching my face around so that father saw it. He extended his hand and said: "My son, I am glad to see you. Your mother has been very anxious. We do not like to have you leave home without our knowledge. Besides, you left without any change of clothing. Now, mother and I would like to have you live with us, but we don't want to compel you to do so. We want to know that you are comfortably housed and well clothed; mother has packed up your clothes and I have brought them to you here and will leave them, but let us hear from you frequently, so that we may know you are in health. That is all."

He said no more. I know now that significant glances were passing between him and my host. I did not know it then.

In due time I replied: " Father, I will go home with you if you will not send me to school to Master Page."

He replied: " I cannot promise you that; I cannot take you home upon an agreement of that kind; you must determine whether you wish to go home or not, and I must determine what shall be done with you; no pledges can accompany your return."

Of course, I went home, arriving in Boston Saturday night, and on Monday morning at nine o'clock I was in my seat in the Dwight School in Master Page's class, where I remained, with an interval of some months' sickness, until I completed the grammar-school work.

The Dwight School was constructed much like the Mayhew School. Those days in the Boston Grammar School, about 1852, afforded the greatest opportunity possible for elementary education; many eminent men lived at that time whose faces were familiar to the schoolboys and about whom Master Page never failed to tell and to impress upon us the importance of recognizing their example. Edward Everett's face was familiar in our school. Daniel Webster's form was familiar on the streets as he passed to and from his home in Marshfield; Winthrop, Prescott, and many other well-known faces were familiar to the sight of the ambitious Boston grammar-school boy.

It was during that time that Millard Fillmore, President of the United States, visited Boston; also Louis Kossuth, touring the country in the interests of Hungarian freedom; two Massachusetts regiments from the Mexican War returned and were received on Boston Common.

These and other incidents were regularly used by Master Page to impress lessons of virtue and integrity and patriotism upon his boys.

The Boston Public Library was instituted at this time; we had had the Mercantile Library and the Mechanics' Library, both large libraries for that time, but a fee was required to obtain books. When free tickets were placed in our hands by Master Page, giving us access to the Public Library with the privilege of taking books home, our delight was great. I was a proud and happy boy. How intimate have grown the relations then initiated in Boston between the public libraries and the public schools of our country.

The struggle for prizes was intense in those days and the Master encouraged the intensity—a mistake, as it seems to me at this time of my life. The ambition for one hundred per cent. attendance was abused in that school, as it is in many nowadays. I have seen ill boys brought from home in a carriage to school, to answer to their names and then return, so that at the end of the year the school could be reported as having had every boy present every day. That harmful emphasis upon school attendance has not yet disappeared.

The Master in some ways overworked his boys. To illustrate—the home lesson was American history, to be prepared out of school hours; the text was Worcester's *History*. The style of recitation, altho memorizing was forbidden, fell more or less into memorizing; we memorized the heads of the chapters, and while forbidden to memorize the text, we sometimes found it convenient to do so. In my own case, with my mother at my elbows, her custom that winter was to come to my room at four o'clock in the morning and place a little oil lamp—which was the light in those days—on the stand at the head of my bed, wake me, and start me in learning the history lesson.

All the work of that class in that school, with me at least, was one of intense application and probably overwork, which drove me to a sick bed for several months and caused my withdrawal from school for a year, during which time, however, I learned as much of business as I could, which has ever been helpful.

On my return to school I started again in the race and never won. I could not be head boy in the class, nor second nor third. I did succeed, however, in getting thru and joining the ranks of "blue-ribbon boys," those who had medals and who were received in Faneuil Hall; taken by the hand, one by one, by Mayor J. V. C. Smith, who spoke words of encouragement in each case; and thus ended my early school life.

Vocal music was taught by the early teachers, Messrs.

Mason and Southard. The latter was at the Dwight School. Drawing was not then taught.

Enthusiasts lived then as now, and one group succeeded in causing a text-book in morals, Wayland's *Moral science,* to be used; then as now a futile undertaking; morals and ethics cannot be taught in such a way. Of that book I remember only the title.

The Boston schools in 1852 were the best of which I have read. I believe they were superior in appointment and equipment to any in our country.

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V

PROFESSOR HYSLOP'S REPORT ON MRS. PIPER AND THE DOCTRINE OF IMMORTALITY[1]

Does the soul's life continue after death? It is the old, old question; but this time we hear what claims to be possibly a new and certain answer. Yes, it will be a new answer, if it be in very truth a message from the dead; and it will be a certain answer, if instead of *a priori* speculation we can get for the life to come the same sort of evidence that we have for the events of this life. But what alone can make up such evidence? After all, the very same sort of information that each one uses in daily life for proving the continued existence of the minds and personalities of fellow-men. Do the phenomena of Mrs. Piper's trance conform to that standard? It is claimed that they do. These two questions we shall try to study in an *a priori* way in the present article.

Before doing so we must summarize very briefly the chief content of Professor Hyslop's report.

Mrs. Piper's case has been studied by some English and American scientists for about a decade and a half, and the present report is thus but the latest of a series of similar reports.

Mrs. Piper passes voluntarily into a trance resembling the deepest hypnosis. In this trance, according to her investigators, she is quite anæsthetic and for her normal stream of consciousness quite unconscious, remembering afterward nothing of that which occurs within the trance. In the trance as now governed, her head rests on a cushion placed upon a table standing before the chair on which she sits. Her right arm rests on another table, and there she writes automatically on a tablet the messages under study. Her head, with eyes closed, is turned away from the writing-table. This is all there is to the whole proceeding. There is no wonder-working. There are simply the deep trance and the automatic writing.

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[1] *A further record of observations of certain trance phenomena*—By Professor J. H. Hyslop. London, 1901. Being part xli, vol. xvi, October, 1901, of the *Proceedings of the Society for Psychical Research.*

The contents of the writing purport to be messages from spirits. A small coterie of what claim to be spirits have control of the automatic writing; and they, in turn, act as go-betweens for the experimenter and the spirits with whom he tries to communicate. The investigators find, not only at the first glance, but also after the most searching and critical study, that these messages seem to be what they claim to be, namely messages from real personalities, personalities now deceased, but whom they can definitely and convincingly identify. Thus in Professor Hyslop's sittings he communicated with spirits giving to him quite satisfactory evidence that they were his father and certain other relatives. In short, the chief characteristics of the messages are just these: The communicators bear every sign of independent and distinct personality that could be demanded; and further, after a most critical study, both of them and also of what should be scientifically required, the messages in style and content meet the demand of personal identification.

The question that at once arises for everyone interested, is, what can be the explanation of these messages? Five answers at least seem possible. The first is, of course, "fraud." To this students of the trance reply, giving their proof: After most rigid, careful, and long-continued investigations we find no evidence whatsoever of fraud. The trance is thoroly genuine. Mrs. Piper does not get thru detectives or thru any other means information regarding the sitters. The other answers are thought-transference, secondary personality, both of these together; and finally, in the last two reports, spiritism. Professor Hyslop argues most forcibly against either thought-transference or secondary personality being able, either alone or together, to explain the phenomena. Spiritism, he urges, is the one answer that fits and explains the case and is by far an easier explanation than to assume that Mrs. Piper's brain has an infinite power of reading men's minds anywhere in the broad world, of selecting out of their minds just what is fit for the person in hand, and also that she is controlled by some fiendish secondary personality who palms off these manufactured personalities upon the sitters.

Professor Hyslop does not claim for his view more than that it is the one that, so far, alone fits the facts and that it is the easiest one so far suggested. Hence he claims that, according to the canons of inductive reasoning, it deserves acceptance as a serious and justifiable hypothesis; and this means that it deserves the attempt to verify it.

In the present article let us study this claim from an entirely *a priori* point of view; because it is from this point of view you and I are most liable to condemn at once any such hypothesis. The study will require us to ask the two questions already suggested in brief. They are these: First what must we require of anything that purports to be a proof of immortality, and in what sort of facts alone can such a proof be found; secondly, how well does the report meet these demands? We might even entitle our article, the philosophic test of a proof of immortality. But right here, before we proceed one step farther, let us be honest and frank with the reader. Such a discussion will in no way give a positive answer to the question, are the conclusions valid and correct? They will, at the most, only remove some *a priori* objections and make us less unwilling to listen to the argument of Professor Hyslop. However, if the reader wants to have an answer to the other question, namely that of truth, there are only two ways of getting it. Either he must study carefully the report itself, or he must wait till the science of the future gives its verdict.

What constitutes a proof of immortality? There are just three conceivable types of proof. First, the substance of the soul cannot be destroyed. Secondly, the eternal fitness of things demands a life beyond. Thirdly, we have empirical evidence of continued existence.

The first is a very old, but a quite inadequate, argument. Even the grossest materialism admits the continued existence of the soul's substance, that is, for it, the matter composing the brain. To put our thought otherwise: Granting that the soul's substance persists, be that substance what it may, this in no way proves that death does not so alter the organization of that substance that its old life, or manifestation, can no longer be what it was. Moreover, even tho you urge against this, that the soul's substance is a unit and that therefore its structure cannot be disorganized; still we have undeniable facts that tell how the soul can undergo changes that mean the temporary loss of all consciousness, of memory, and of rationality. If the deepest faint or the dread delusions of a raving maniac can last two seconds, why not forever? That alone is worthy of the name immortality that means the continuation of our present life, its memories and personality. This continuation can be interrupted, and is, every day. Thus your proof is none whatsoever.

But if the first type of proof fail, will not the second take its place successfully? Does not the eternal fitness of things demand a future life? This argument depends upon two presuppositions. They are these: What is truly fit really is. Otherwise expressed; the world is an ideal world. Secondly, a future life would alone be fit, would alone be ideal. Hence the conclusion that such a life really is.

Now, for one, I am not only willing to admit the philosophic validity of faith in an ideal world, but also willing to maintain that faith. None the less, anyone that asks for faith the same reception that empirical knowledge gets must remember the terms on which alone he has a right so to do. They are: the field of faith must be limited to the scientifically unknowable, otherwise faith becomes synonymous with laziness and superstition; laziness, because it is easier to sit back in our chairs and believe what we will than it is to be real seekers after truth, and superstition, because, in such a case, we should be but substituting for a possible sense-given knowledge the imaginations of a mere dream. In short, we must not appeal to faith to answer questions that can be solved by science. If we can show philosophically that they transcend the bounds of science; then and only then may we appeal to faith. Thus in all arguments for or against immortality, faith must rationally be the last court to which we appeal for a verdict.

But there is one other reason which makes faith in the present problem seem naught but grasping at a straw. When we come to ask any mind to construct for us a definite and detailed picture of the ideal world, of what is eternally fit; who but the frivolous and presumptuous dare give a definite certain answer? The world has had such pictures given it to satiety, and has more than once quite lost its confidence in the whole undertaking. It has learned to feel that faith is least trustworthy when details are mentioned. The world is ideal, but beware of telling us too assuredly what is in detail the ideal. Nay rather, mankind nowadays seems most disposed to listen to faith, not when faith shows what the ideal would be, but when faith reveals to us how the world we do know conforms to the ideal.

However this may be, the tendency of the thought of the day is to look not to faith, but to empirical evidence, for information from beyond the grave. Immortality is to be verified by the facts. They form its proof. Thus we are called upon to ask what can be foretold about the character of such a proof, and within what field of the world's facts are we to look for it?

Let us do so. What are the only proofs of the existence of any mind other than our own? Have we not here the question that must contain within its limits the answer to the narrower question, what type of fact can alone prove immortality? You and I never see into one another's minds and there behold the thoughts as they come and go.

> Each of these minds keeps its own thoughts to itself. There is no giving or bartering between them. No thought ever comes into direct *sight* of a thought in another personal consciousness than its own. Absolute insulation, irreducible pluralism, is the law. Neither contemporaneity, nor proximity in space, nor similarity of quality and content are able to fuse thoughts together which are sundered by this barrier of belonging to different personal minds. The breaches between such thoughts are the most absolute breaches in Nature.

What would you or I know of the mental life of our nearest friend, if that friend were not in the body? He could not talk or write to us. He could not perform those daily acts of life that reveal his character and his aims, his likes and dislikes, his joys and sorrows, his cleverness and moral stability. What should or could we learn without the body to bridge the chasm between mind and mind? Clearly nothing; for, were it not so, we might know just as much about the minds of men whom we have never seen, of whom we have never heard, whose writings we have never read, as we know about the members of our own household. But, as a matter of fact, we know nothing whatsoever about a mind from which we are thus cut off, except in so far as we ascribe to it those general traits we find present in all the minds we do know.

To cut the argument short: you and I are limited to one class of facts alone for all information about the minds of our fellow-men and even for the existence of those minds. This class of facts is made up solely of the deeds and activities of their bodies. Their utterances, their writings, their bodily and facial expression, their work and their play, these and other bodily acts tell all that is ever told.

But right here we have physiology stepping forward and telling us that it is possible to narrow things down even more. Back of the activities and deeds of the body, starting them, guiding and controlling them, are the nervous system and, above all, the brain. The brain is the true and only organ by which mind is able to communicate with mind, by which the gulf between them can be passed. We have no facts whatsoever in all the length and breadth of creation to lead us to hold that mind in any way ever accomplishes aught in this material world of ours except thru the brain or nervous system of some animal. Mind wrote Shakspere's plays, but it used a brain and nervous system to guide the muscles of the arms and fingers in doing so. Shakspere might, as a pure spirit, have dreamed his plays; but how would you or I now have them, had they not been written by some brain, the servant of his mind? Thus think as long as you will and look the wide world over, where will you find any other means by which mind reveals itself to mind than thru some brain?

And now for the question at issue. If you are to get any evidence of a life beyond death, of the mind once having made itself known to us here on earth; where are we to get that evidence, and what sort of evidence will it be? Where? Why, if at all, thru some brain. And thru whose brain? Surely not thru the old brain now decayed or partly disorganized. But where then? Surely thru the brain of some living man or woman. And what sort of evidence must it be? Ultimately, without one exception, just the same sort that men use to identify the authorship of any communication. Ordinarily we are very uncritical about such identifying. Whatever expression comes from Peter's body, the same is without hesitation ascribed to Peter's mind. In this way it is a very easy task for us to identify Peter's authorship as long as we are present; but put Peter two or three thousand years ago and his communication to us only a great-grandchild copy of Peter's own writing, then to identify authorship is no easy task. However, no matter what the occasion, there is but one way on the face of this earth, if we are seriously critical, to identify Peter's authorship; and that way is not even to find out whether Peter's brain did the work, but to learn whether Peter's mind did the work. How can we do this? Simply by comparing the communication in question with what we accept as the standard of Peter's authorship. This standard is made up of Peter's style, information, prejudices, and all that we know of Peter. Did the same mind express itself in Hamlet that expressed itself in Othello? Such would always be the form of our question.

Now what does all this mean for our problem? It means just one thing. Either science must give up the whole problem of determining whether life continues after death and acknowledge itself incompetent to answer the question; or science must seek among the expressions wrought by living brains and bodies for facts that it can and must ascribe to the authorship of a mind once known to express itself thru a body now dead.

You may object: None except the one mind can express itself thru the same brain. But how are we to find this out unless by assuming an answer to the very question at issue? No *a priori* principle could ever give us this information, unless it be that of the conservation of energy. But this would mean that we know the ultimate mechanism involved, on the one hand in joining brain and mind, and on the other in assumed spirit communication—all which we do not know. However, that this is a very difficult problem, and that it raises in the mind of every parallelist a mighty *a priori* prejudice, has to be admitted. Still, to discuss it adequately would require a whole article, all by itself. Yet in spite of all, it would remain true, we know nothing of the ultimate mechanism that would have to be involved and so cannot claim that spirit communication contradicts the conservation of energy. Hence, from the limits of our information and from the scources of our information, we seem forced to say one thing or the other—the question of life after death cannot be answered, or else science must hunt right in this field for evidence.

This latter is just what Professor Hyslop and Dr. Hodgson have been doing; and if their so doing is not living up to the spirit and letter of science, what in truth's name are its spirit and its letter! We, as scientists, have no right to give up the search for evidence of a future life as long as men have any serious rational interest in such a life, or until someone has proved definitely that there is no such thing as a future life. Of course, if no one cares to know, let us stop; and of course, if there is no such thing, no sane man will, when surely informed, keep up the search for what does not exist. But men do care and ought to care; and no one has proved the negative answer to the problem of immortality. It is often hard enough to prove the non-existence of material phenomena; but when it comes to proving the non-existence of immaterial phenomena, then we have indeed a task on our hands! So what is there left for us, as true scientists, to do about it but to continue to search in the only field where, as far as we know, evidence is possible? The two gentlemen have done so; and surely, as far as this alone is concerned, no true scientist can do aught but praise them for so doing.

But further, when they tell us they have found evidence, what are we, as scientists, to do about it? Cry fraud or nonsense before we have learned definitely what the evidence is? Their case may be fraud, their inferences may be false; but what *a priori* ground is there, in the whole realm of human information, to say so before we sift their facts and argument? There is but the one ground already mentioned, namely that we know beforehand, with all the surety of the infallible, that mental life does not survive death. In which case the modesty at least, if not the truth, is on their side!

They find Mrs. Piper's brain giving them messages whose authorship cannot be ascribed to Mrs. Piper's mind. Further, they find that the messages purport to come from minds once known to them and to other living witnesses, and also that these messages have the marked stamp of authenticity.

What is, then, the whole problem? Solely a question of authorship. Whose mind is back of these messages? No doubt the first claim to authorship, to be put forward by science and to demand an answer, is that Mrs. Piper's mind as well as Mrs. Piper's brain is consciously or unconsciously the author.

But back even of this question lies one that must give almost any outsider trouble. How far can one mind successfully imitate another? Do we know? If you say we do not, then we finite men are in the strange position of being unable to assure ourselves of the personal identity of any brother man. Peter may be Peter, but how, pray, are we to know it? But are the Piper phenomena an imitation of personality, fraudulent or otherwise? The possibility of fraud, Professor Hyslop claims, "was thrown out of court as much as ten years ago for all intelligent men"; and the outsider must at least admit that some more definite answer than the cry "fraud" should be given such a challenge. But fraud aside, he urges with all seeming justice that if Mrs. Piper's mind is simply imitating other personalities, her power to do so must be called no less than infinite. Once grant such a power, we fell at one sweep every criterion of personality.

Now, of course, we all do accept a criterion of personal identity; and it is just that criterion that Professor Hyslop claims he employs to test the authenticity of the Piper messages. We do claim there are limits to the imitation of another's personality. If so, we have in the Piper phenomena something for science to say yes or no about. Do the messages lie without the limits of imitation, and of course this means the limits of the special case? Professor Hyslop argues most forcibly that they do.

The consequence is, the case comes on all sides well within the canons of science. It is searching for evidence in the one field where alone evidence can be found. There are no *a priori* dogmas to deny the truth of the conclusions before we even start. The problem reduces itself to one of identifying personality, and the possibility of so doing must be admitted.

Hence, if evidence sufficient be forthcoming, what is left for us to do but to take up the case and study it with all the readiness and willingness to be convinced that we should have in any other difficult scientific problem? Surely the canons of science forbid our condemning the case before a trial; and surely they demand that old habits of apperceiving or judging, prejudicial to impartiality, be set aside, as far as one is able so to do. In short, we have before us, even tho its conclusions be ultimately found wrong, a truly and thoroly scientific attempt to deal with the problem of life after death. Moreover, when we think of all the prejudice and misunderstanding such an attempt arouses at once even among scientists, yes and among one's best friends, because our habits of thought have for years led us to reject as unworthy even of a hearing all claims of "messages from the dead"; then indeed we see the true scientific courage of the man that is willing to risk his professional reputation by trying to give the world a fair, a rational, and a confirming report of the claims of just such messages. Nor can we for a moment rightly charge overhaste in giving such a report to the scientific world. It represents years of study of the very case in question; and what is more, scientists are supposed to be mutually helpmates and should therefore be taken into confidence. Finally, if there be a place in all creation where the tyranny of tradition and of preconceived notions should not be tolerated, it is in science. Better error a thousand times than such tyranny. This is in no way a defense of Professor Hyslop's results or an acceptance of his conclusions. Let them stand the test all by themselves, for they are their own best defense. Our plea is simply this: Scientists are bound in all consistency to accept the responsibility of taking the issue seriously and of rescuing, as he requests, the author of the report from illusion, if illusion it be. Such illusions are important stages in the very growth of science itself.

As an appendix, a word or two should be said about the educational tendency of such attempts to prove immortality. Of course nothing should be done to take away the common-sense skepticism against all sorts of spiritualism, occultism, and similar trash. Nowadays the tendency to be duped by charlatans is still by far too great to risk in any way the good sense the science of the last century has given the public. Still the tendency to doubt the doctrine of immortality which often for the doubters as well as for others is most sacred, especially the tendency in later adolescence (the so-called *Aufklärung* period), ought to be met by the teacher with at least this much information. It has never been proved that man is not immortal. It may some day still be proved empirically that he is; and a few earnest and able scientists hold out the hope that this day may come sooner than most of us have had the faith to expect.

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VI

SOME FUNDAMENTAL PRINCIPLES OF AMERICAN EDUCATION[1]

It was my good fortune to hear one of General Garfield's most eloquent speeches. From the gallery of a great hall I looked down upon a scene where ambition, envy, and patriotism were all struggling for expression in the national convention of a powerful political party. A candidate for President of the United States was to be chosen. The walls had trembled at the mighty cheers that thousands of strong, eager men had given for the leaders of their choice. Finally, amid perfect silence, General Garfield rose in his place among the representatives of Ohio and made his way to the platform to put before the convention the name of the man whom he preferred above all others for President of the United States. He had been greatly moved by the tempest of cheering and applause which had greeted two of the names already in nomination, and he sought to lead the convention away from the passionate feeling of the moment to a more sober and substantial standard of judgment. With solemnity and deliberation, General Garfield opened his speech with these sentences:

> I have witnessed the extraordinary scenes of this Convention with deep solicitude. Nothing touches my heart more quickly than a tribute of honor to a great and noble character; but as I sat in my seat and witnessed this demonstration, this assemblage seemed to me a human ocean in tempest. I have seen the sea lashed into fury and tossed into spray, and its grandeur moves the soul of the dullest man; but I remember that it is not the billows, but the calm level of the sea, from which all heights and depths are measured.
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> When the storm has passed and the hour of calm settles on the ocean, when the sunlight bathes its peaceful surface, then the astronomer and

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[1] An Address delivered before the Convocation of the University of the State of New York, at Albany, N. Y., June 30, 1902.

> surveyor take the level from which they measure all terrestrial heights and depths. . .
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> Not here, in this brilliant circle where 15,000 men and women are gathered, is the destiny of the Republic to be decreed for the next four years. Not here, where I see the enthusiastic faces of 756 delegates, waiting to cast their lots into the urn and determine the choice of the Republic; but by four millions of Republican firesides, where the thoughtful voters, with wives and children about them, with the calm thoughts inspired by love of home and country, with the history of the past, the hopes of the future, and reverence for the great men who have adorned and blessed our nation in days gone by, burning in their hearts—*there* God prepares the verdict which will determine the wisdom of our work to-night.

Often in listening to debates and discussions of matters far removed from things political, this counsel of Garfield's has recurred to me. It seems to be so easy, in education as elsewhere, to yield to the pressure of momentary feeling or temporary expediency and to lose sight of the deep underlying principles which should, and in the long run must, control our action and our policies, that we need constant reminder of what those principles are. Therefore, in accepting the invitation to address the Convocation of the University of the State of New York, I shall endeavor to place before you, tho with necessary brevity, some principles which appear to me to be fundamental in our American educational system and policy. I am the more ready to do this because, during the last two or three years, in important debates, I have observed that some of these considerations have been overlooked or their existence flatly denied.

First and foremost, I name this proposition and hold it to be fundamental to our American educational system:

While all forms of education may be under government control, yet government control of education is not exclusive, and the national system of education in the United States includes schools and institutions carried on without direct governmental oversight and support, as well as those that are maintained by public tax and administered by governmental agencies.

Some very important consequences follow from the acceptance of this principle. A nation's life is much more than an inventory of its governmental activities. For example, the sum total of the educational activity of the United States is not to be ascertained by making an inventory of what the government—national, State, and local—is doing, but only by taking account of all that the people of the United States are doing, partly thru governmental forms and processes and partly in non-governmental ways and by non-governmental systems. In other words, the so-called public education of the United States, that which is tax-supported and under the direct control of a governmental agency, is not the entire national educational system. To get at what the people of the United States are doing for education and to measure the full length and breadth of the nation's educational system, we must add to public or tax-supported education, all activities of similar kind that are carried on by private corporations, by voluntary associations, and by individuals. The nation is represented partly by each of these undertakings, wholly by no one of them. The terms national and governmental are happily not convertible in the United States, whether it be of universities, of morals, or of efficiency that we are speaking.

This point is of far-reaching importance, for it has become one of the political assumptions of our time that any undertaking to be representative of the nation must be one which is under governmental control. Should this view ever command the deliberate assent of a majority of the American people, our institutions would undergo radical change and our liberties and right of initiative would be only such as the government of the moment might vouchsafe to us. But we are still clear-sighted enough to realize that our national ideals and our national spirit find expression in and thru the churches, the newspaper press, the benefactions to letters, science, and art, the spontaneous uprisings in behalf of stricken humanity and oppressed peoples, and a hundred other similar forms, quite as truly as they find expression in and thru legislative acts and appropriations, judicial opinions, and administrative orders. The latter are governmental in form and in effect; the former are not. Both are national in the sense that both represent characteristics of the national life and character.

The confusion between a nation's life and a nation's government is common enough, but so pernicious that I may be permitted a few words concerning it.

When Hegel asserted that morality is the ultimate end for which the state—that is, politically organized mankind—exists, he stated one of the profoundest moral and political truths. But it is pointed out to us by political science that before any such ultimate end can be gained, the proximate end of the development of national states must be aimed at. The state operates to develop the principle of nationality which exists among persons knit together by common origin, common speech, and common habitat, thru creating and perfecting two things—government and liberty. The first step out of barbarism is the establishment of a government strong enough to preserve peace and order at home and to resist successfully attack from without. This accomplished, the state must turn to the setting up of a system of individual liberty. It does this by marking out the limits within which individual initiative and autonomy are permitted, and by directing the government to refrain from crossing these limits itself and to prevent anyone else from crossing them. After government and liberty have both been established, then all subsequent history is the story of a continually changing line of demarcation between them, according as circumstances suggest or dictate. In the United States, for example, the post office is in the domain of government; the express business and the sending of telegrams are in the domain of liberty. In different countries, and in the same country at different times, the line between the sphere of government and the sphere of liberty is differently drawn. In Germany the conduct of railways is largely an affair of government; in the United States it is largely an affair of liberty. Schools, for example, are to-day much more an affair of government than ever before, but they are still an affair which falls in the domain of liberty as well. In short, government plus liberty, each being the name for a field of activity, gives the complete life of the state; government alone does so just as little as the sphere of liberty alone would do so. These principles are all set forth with great lucidity and skill by my colleague, Professor Burgess, in his work entitled *Political science and comparative constitutional law.* In discussing this distinction he writes:

> It is often said that the state does nothing for certain causes, as, for instance, religion or the higher education, when the government does not exercise its powers in their behalf. This does not at all follow. If the state guarantees the liberty of conscience and of thought and expression, and permits the association of individuals for the purposes of religion and education, and protects such associations in the exercise of their rights, it does a vast deal for religion and education; vastly more, under certain social conditions, than if it should authorize the government to interfere in these domains. The confusion of thought upon this subject arises from the erroneous assumptions that the state does nothing except what it does thru the government; that the state is not the creator of liberty; that liberty is natural right, and that the state only imposes a certain necessary restraint upon the same. . . There never was, and there never can be, any liberty on this earth and among human beings outside of state organization. . . Mankind does not begin with liberty. Mankind acquires liberty thru civilization. Liberty is as truly a creation of the state as is government."[1]

A written constitution, it may be added, is a formal act of creation of a government and a careful delimitation of its powers. It also defines the sphere of individual liberty, directly or indirectly, and so the individual is protected by the state against the government. Thru the government he is also protected against encroachment from elsewhere. In the Constitution of the United States, for example, the individual is guaranteed by the state the rights peaceably to assemble and to petition the government for a redress of grievances, and the government must both refrain from invading those rights and prevent others from invading them. If the government should fail to do this, the state which created the government would surely remodel or destroy it.

I shall not apologize for this excursion into the domain of political science, inasmuch as I hold the distinction between state and government to be of crucial importance for right thinking upon the larger problems of our educational polity. When once the distinction between state and government is grasped, and also the farther distinction between the sphere of government and the sphere of liberty, then it is seen to be a matter of expediency, to be determined by a study of the facts and by argument, whether a given matter—such as support of schools or the control of railways and telegraphs—should be assigned to the sphere of government or to the sphere of liberty.

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[1] *Op. cit.* I: 87–89.

In the United States there are three different types of educational institution, all resting upon the power of the state. One of the three depends wholly and one partly upon the government. The third type is without any governmental relationship whatever. The three types are these:

1. Those institutions which the government establishes and maintains, such as the public schools, the public libraries, and the State universities.

2. Those institutions which the government authorizes, such as school, college, and university corporations, private or semi-public in character, which gain their powers and privileges by a charter granted by the proper governmental authority, and which are often given aid by the government in the form of partial or entire exemption from taxation.

3. Those institutions which the state permits, because it has conferred on the government no power to forbid or to restrict them, such as private-venture (unincorporated) educational undertakings of various kinds.

Our American educational system is made up of all these, and whether a given school, college, or university is national or not does not in the least depend upon the fact that it is or is not governmental. France and Germany have great national universities which are governmental; England and the United States have great national universities which are non-governmental. Oxford and Cambridge are no less truly English, and Harvard and Columbia are no less truly American, because their funds are not derived from public tax and because the appointments to their professorships are not made or confirmed by government officers. Whether a given institution is truly national or not depends, in the United States, upon whether it is democractic in spirit, catholic in temper, and without political, theological, or local limitations and trammels. It may be religious in tone and in purpose and yet be national, provided only that its doors be not closed to any qualified student because of his creed.

It is worth noting that while in the United States the government bears nearly the entire brunt of elementary education, it finds a powerful ally in non-governmental institutions in the field of secondary and higher education. The statistics gathered by the Commissioner of Education show that for the year ending June 30, 1900, of all elementary-school pupils 92.27 per cent. were enrolled in governmental institutions, while for secondary and higher education the percentages were 73.75 and 38.17 respectively. In other words, non-governmental institutions—those which are loosely described as private schools and colleges—are instructing about 1-13 of the pupils of elementary grade, about 1-4 of the pupils of secondary grade, and about 2-3 of the pupils of higher grade. Almost exactly 1-10 of the whole number of pupils of all grades are enrolled in non-governmental, so-called private, institutions. It is just this word "private" which increases the confusion against which my argument is directed. It is my contention that none of these institutions is properly described as "private"; they are all public, but not all governmental. If this point is clear, then we shall have escaped the fallacies and dangers that follow from confusing tax-supported, governmental undertakings with public tendencies and movements. In education and in our political life generally, the public tendencies and movements are a genus of which governmental activities are a species.

As a second fundamental principle of our American educational system, I name this:

The duly constituted authorities of any school district or other political unit may establish and maintain schools of any kind or grade for which the voters consent in regular form to bear the expense.

There is a widespread belief that elementary education under government control is a matter of right, but that secondary and higher education under government control are improper invasions of the domain of liberty. There is no ground in our public policy for this belief. The government has the same right to do for secondary and for higher education that it has to do for elementary education. What and how much it shall do, if anything, in a particular case, is a question of expediency; the right to do as much as it chooses is unquestionable.

Upon this point there is an important decision,[2] made by unanimous vote of the Supreme Court of Michigan in 1874, which may fairly be taken to represent our established policy. The opinion was written by Justice Thomas M. Cooley, one of the most learned and authoritative of American constitutional lawyers. The decision was rendered in a suit known as "the Kalamazoo case," to restrain the collection of such portion of the school taxes assessed against the complainants for the year 1872 as was voted for the support of the high school and for the payment of the salary of the superintendent of schools in school district No. 1 of Kalamazoo. The position of the complainants, as stated by the court, was as follows:

> While there may be no constitutional provision expressly prohibiting such taxation, the general course of legislation in the State and the general understanding of the people have been such as to require instruction in the classics and in living modern languages in the public schools to be regarded as in the nature, not of practical and therefore necessary instruction for the benefit of the people at large, but rather as accomplishments for the few, to be sought after in the main by those best able to pay for them, and to be paid for by those who seek them, and not by general tax. And further, that the higher learning, when supplied by the State, is so far a matter of private concern to those who receive it that the courts ought to declare the State incompetent to supply it wholly at the public expense.

In answer to this contention the court expresses surprise that the legislation and policy of the State were appealed to against the right of the State to furnish a liberal education to the youth of the State in schools brought within the reach of all classes.

> We supposed [adds the court] it had always been understood in this State that education, not merely in the rudiments, but in an enlarged sense, was regarded as an important practical advantage to be supplied at their option to rich and poor alike, and not as something pertaining merely to culture and accomplishment, to be brought as such within the reach of those whose accumulated wealth enabled them to pay for it.

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[2] Michigan Reports, 30: 69–85.

The court then passes in review, in most instructive fashion, the development of the educational policy of the State from the beginning, and concludes, as follows:

> We content ourselves with the statement that neither in our State policy, in our constitution, nor in our laws, do we find the primary-school districts restricted in the branches of knowledge which their officers may cause to be taught, or the grade of instruction that may be given, if their voters consent in regular form to bear the expense and raise the taxes for the purpose.

In consonance with this opinion is one delivered by the Supreme Court of Missouri in 1883,[3] in which it is held that the term "common," when applied to schools, is used to denote the fact that they are open and public to all rather than to indicate the grade of the school, or what may or may not be taught therein. The court also holds that the term "school" of itself does not imply a restriction to the rudiments of an education.

It is interesting to contrast these decisions in Michigan and in Missouri with the conclusion reached by the Court of Queen's Bench in England in 1901 in the now famous case of the Queen *versus* Cockerton,[4] in which it is expressly held that it is not within the power of a school board to expend money raised by local taxes upon any education other than elementary. The terms of the Education Act of 1870 and of the many acts supplementary thereto no doubt justified the court's decision, but the fact that such a conclusion is bad public policy has been brought to the attention of a large number of thoughtful persons, and has had no small part in the present educational debate which is much the most important matter before Parliament and the English people.

A third fundamental principle of our American education is this:

The schools which are maintained by governmental authority are established in the interest of the whole people, and because of the controlling conviction that an instructed and enlightened population is essential to the perpetuity of democratic institutions and to their effective operation. The schools are therefore a proper charge upon all taxpaying persons and property, and not merely upon those whose children receive instruction therein. Nor are they in any sense schools which are provided for the poor or the unfortunate.

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[3] See Missouri Reports, 1882–83, 77 : 485–489.

[4] See Law Reports, King's Bench, 1901, I : 322–360, 726–740.

When stated, this principle seems axiomatic. Nevertheless, it is openly or impliedly denied with surprising frequency. It is safe to say that in all of our large cities there is a class of persons, by no means inconsiderable in number, who look upon the tax-supported schools as they look upon almshouses and asylums. Such persons regard the schools as a part of the community's charitable or philanthropic equipment. In my view, on the other hand, the schools are a part of the community's life. They are not merely to give relief or shelter to individuals, they are to minister to the democratic ideal. The very children who sit on the benches are regarded not merely as children, interesting, lovable, precious, but as future citizens of a democracy with all the privileges and responsibilities which that implies. Over seventy years ago Daniel Webster stated this principle in language which cannot be improved:

> "For the purpose of public instruction," said Webster, in his oration at Plymouth on Forefathers' Day in 1820, "we hold every man subject to taxation in proportion to his property, and we look not to the question whether he himself have or have not children to be benefited by the education for which he pays. We regard it as a wise and liberal system of police, by which property, and life, and the peace of society are secured. We seek to prevent in some measure the extension of the penal code by inspiring a salutary and conservative principle of virtue and of knowledge in an early age. We strive to excite a feeling of respectability, and a sense of character, by enlarging the capacity and increasing the sphere of intellectual enjoyment. By general instruction, we seek, as far as possible, to purify the whole moral atmosphere; to keep good sentiments uppermost, and to turn the strong current of feeling and opinion, as well as the censures of the law and the denunciations of religion, against immorality and crime. We hope for a security beyond the law, and above the law, in the prevalence of an enlightened and well-principled moral sentiment. . . And knowing that our government rests directly upon the public will, in order that we may preserve it we endeavor to give a safe and proper direction to that public will. We do not, indeed, expect all men to be philosophers or statesmen; but we confidently trust, and our expectation of the duration of our system of government rests upon that trust, that, by

the diffusion of general knowledge, and good and virtuous sentiments, the political fabric may be secure as well against open violence and overthrow as against the slow, but sure, undermining of licentiousness."

Here we have in the words of our greatest expounder of the underlying principles of American polity a statement of the philosophical basis upon which our tax-supported school system rests. We may wish that these schools did many things differently; we may not have children to send to their classrooms; nevertheless, they are our schools because we are American citizens, and we owe them our loyal service as well as our ungrudging support. Anyone who wishes, for personal, social, or religious reasons, to have his child receive a training other than that which the tax-supported schools give, is at liberty to make such provision for his child as he chooses; but he is not thereby released from the obligation resting upon him as a citizen to contribute to the support of the tax-supported schools. It follows, too, that the parents of those who are pupils in the tax-supported schools have no peculiar rights in connection with the policy of those schools that are not shared by all other citizens. The schools are for the people as a whole, not for those of a district or ward, or of a political party or religious communion, or for those who are either poor or rich. We poison our democracy at its source if we permit any qualification of this fundamental principle.

It is sometimes gravely argued that positions as school officers or teachers should be given only to those who live, at the moment, in the civil community or subdivision in which the school in question is situated. This is the theory that the schools exist not for the people or for the children, but in order that places may be provided for the friends, relatives, and neighbors of those who are charged for the time being with the power of appointment. It is an undemocratic theory, because it substitutes a privileged class for open competition among the best qualified. Pushed to its logical extreme, it would look first in the ranks of the descendants of the aborigines for persons to appoint to posts in the educational system. Very few Americans live where their grandparents lived, and it is usually those who have come most recently to a city, town, or village who are loudest in insisting that no "outsider," as the saying is, be given a place as teacher or superintendent. The democratic theory, on the contrary, asks only for the best, and if the community cannot provide the best it holds that such community should enrich itself by bringing in the best from wherever it is to be had. As teaching becomes a profession, the teacher and school officer will acquire a professional reputation and status which will make short work of town, county, and even State boundaries.

These three principles have been chosen for presentation and emphasis at this time because, altho each of them is often denied, I believe them to underlie our whole educational system, and to condition all clear thinking and right action concerning it. They are, briefly, that

1. American education is far wider than the system of tax-supported schools and universities, numerous and excellent as those schools and universities are. All schools, colleges, and universities, tax-supported or not, are public in the important sense that they all reflect and represent some part or phase of our national life and character.

2. There is no restriction upon the amount, kind, or variety of education which a district, town, or city may furnish, save that which is found in the willingness or unwillingness of citizens to vote the necessary taxes.

3. The tax-supported schools are public schools in the fullest possible sense, and are not maintained for the benefit of persons of any special class or condition, or from any motive which may properly be described as charitable or philanthropic.

The constant application of these principles in educational debates and discussions would bring definiteness and clearness into many places that are now dark and uncertain, and would greatly promote the interest which we all have at heart—the conservation and up-building of our American democracy.

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VII

DISCUSSION

THE LONDON SCHOOLS AND THE POOR

The only just impression which a visitor to the schools of England can give of the work there is one which reports the spirit of the workers and the obstacles which they have to overcome. I recently spent two months in London, and I made it my aim to see what American educators may learn in that country about establishing a closer relation between the public schools and the home life. It is easy to find there meanly equipped schools, crude methods, and unskilled pupil teachers; but there is little profit and less courtesy in holding these up to view, with no word of the great-hearted devotion of the best men and women of England to the cause of popular education, and of the great progress which the cause has been making during the life of the past generation. There have been great strides in the advance of public education in the last thirty years in Italy, France, and England, but anyone who studies the history of these years, and at the same time makes the acquaintance of the schools in their present condition, will be constrained to say that in none of these countries has there been a greater advancement, and in none is there a more earnest devotion to the work, than in England; and this advance has been made in the face of the terrible fact of poverty and degradation which rest upon so great a portion of the population. The board schools of England are elementary. The children may enter at three or even earlier. They are required to come at five and must remain until they are fourteen, or have passed examinations in the fifth standard.

When the Forster bill was passed in 1870, it had for its avowed purpose to supplement the voluntary or church schools which were so sadly lacking in number and efficiency, and the government had the double labor to perform of compelling the towns and boroughs to provide schools, and then to compel attendance upon them. This work for the first generation has been stupendous. The people for whom the schools were established with no education but that of the street and factory, or at best of the ragged Sunday schools, were indifferent to the need of their children, and only interested to set them to work at an early age. They were hostile to the authority which required their attendance and sought to evade the compulsory law. Now there is a generation of graduates from these schools. Their attitude is more kindly, and they are beginning to look upon the school and its officers as their friends; yet even now no small part of the work is in and for the home. The London School Board employs at a regular salary three hundred attendance officers, who give all their time to adjusting the relations of home and school. They come to the school for lists of absentees and to report especial cases of suffering from illness, poverty, or neglect. They go to the home to inquire into causes, to give advice, encouragement, or help as the case may require; to admonish, threaten, or even prosecute when necessary. They do the work of our friendly visitors of charity organizations with system and thoroness. They assign special cases to special schools, as for the deaf, the feeble-minded, or to the industrial schools, which do the work of our houses of refuge and reform, but they are all under the management of the board. These attendance officers are so cordial to visitors and so responsive to their inquiries that one can learn in a single interview much of the social condition of the community as well as of the true missionary spirit of the school. By one of these attendance officers in Edinburgh I was called for at my hotel and taken at night thru the mysteries of Canongate, going from the top of one house into the bottom of another, for Canongate is so much of it constructed vertically that one can, under such a conductor as Mr. Stewart, go thru it as well by climbing stairs as by following the narrow pavement. The experiences of that evening would furnish material for a story of the most dramatic kind.

But these three hundred attendance officers are only a part of the force who work for the school outside of the school itself. The city of London has twenty-two hundred school managers, about a dozen to each group of three or four schools. They are appointed by the board and give their time and thought to the welfare of the school without compensation. For these the school, rather than the home, is the center of the field. They visit the school to advise, encourage, and sympathize, and to look after the mental, moral, and physical welfare of the school; they are the medium of communication between the teachers and the board; they report upon the quality of the teachers' work and recommend for appointment or discontinuance all teachers below the head master; but the managers are also charged by the board with the duty of caring for delicate children, and it is their duty to visit the homes of these children and look after their studies, and in the subcommittee appointed for this purpose it is enjoined that there shall be one woman and one doctor.

To the visitor these managers are easily accessible, and they are ready to find ways not only to make her at home in the school, but to make her visit a help to the teacher and the school. While of course among so large a number of school managers one may expect them to vary widely in personality and in fidelity and interest, yet one may look among them to find the best expression of culture and refinement, and the truest illustration of philanthropy. Many of them are residents of settlements, others are from the homes of men and women of rank and reputation. I was taken to the Prospect Terrace School, one of the best board schools of London, by Miss Dorothy Ward, the daughter of Mrs. Humphry Ward. I met her at the Passmore-Edwards settlement, which was established thru Mrs. Ward's public interest and influence. At Toynbee Hall there is a number of these managers who make this office their best avenue for their work of bettering the community. It was in the house of Mr. Macdonald, an ex-member of Parliament of the Liberal party and a present member of the school board, that I found Miss Ada Viner, whose office of school manager is by no means the least of her responsibilities in philanthropic work. It was under her personal conduct that I found my way into the schools of the Bow and Bromley district, one of the largest factory regions of London, and it was thru her helpful suggestions that I gained a most interesting acquaintance with the work of the board itself.

It would hardly seem in place here to enter into any full account of the London School Board. Suffice it to say that of the fifty-five members there are many who stand high as professional men, some who give all their time to serving the public as members of the board.

In the schools themselves there is every opportunity to see and learn. Her Majesty's inspectors were holding an examination in the Prospect Terrace School on the day of my first visit there. I should find no occasion, even if I desired to do so, to disparage the intelligence and interest of the book work of the school; but one naturally wishes to see the things that are less a feature of public education at home. Probably half the time is given to physical exercise and to manual work of some kind. There is every variety of gymnastics, including ball-playing, swimming, and jumping the rope, and every species of manual and domestic training; knitting, sewing, cooking, housewifery, laundry work, carpentry, printing, as well as higher technical work. Of course utility as well as culture enters into the scheme. The children are fitted for self-support and given situations as fast as they are qualified; while those who give fair promise of success are carried on to an advanced course of study, being furnished with scholarships in technical or even professional schools. Not all of these kinds of work are done in the same school; there are laundry centers, cooking centers, and especial centers for carpentry; but every child of every age has manual exercise of some kind every day. I was taken by Miss Ward to a room in the Prospect Terrace School where there was being given a lesson in housewifery. The children of the room sat in graduated rows of seats where they could all watch the operation of bed-making in the front part of the room. Two little tots were doing the work; a little four-year-old was tugging at a pillow case, vainly trying to get it on. It was not long before Miss Dorothy was on her knees giving assistance to the little pupil. In the meantime Miss Glasspool, the head mistress of the infant department, picked up the youngest member of the class in her arms and brought her to me. She was a baby of two and a half years, but a regularly enrolled member of the school. I reached out to take her, but she cuddled down in Miss Glasspool's neck and declined to make my acquaintance; it was the first and only repulse I received from anyone in any of my visits.

It is impossible to show how thoroly the London public schools provide for its poor without some mention of its special and industrial schools. There are in London forty schools for the feeble-minded, eighteen for the deaf, and a proportionate number for the blind. I found at Passmore-Edwards Settlement a most interesting school for cripples. It is under the management of settlement workers, but like the other special schools is supported by the public fund. Ambulances are sent for the children in the morning, and at school they are provided with couches and adjustable chairs. They are fed and tenderly cared for, given the needed medical or surgical treatment, and for their book instruction put under skilled teachers. Let me say that in all the special schools I saw none but skilled teaching. They are all carefully graded, and as one goes from room to room to see the successive steps of progress he is made to realize in one visit what a term of years of such instruction is doing to give these deficient children a more abundant life. The Industrial School at Drury Lane is less known to American readers than the People's Palace, Toynbee Hall, or the Blue Coat Boys' School at Christ's Hospital. It does not, like these, enjoy literary fame, nor does it stand, as these do, as a monument to personal magnanimity. But it does work as interesting and attractive as any of these and has the value of being the people's own; not a charity nor, in its technical sense, a philanthropy. Coming down the steps of Parliament Building one day after being urged to "pass on" by the guards in tones of loud authority, an Englishman turned to me and said: "It's me own 'ouse and they're hordering me hout!" This is the boys' own house and they are *ordered in.* Those who come here have been sent from the truant school, where "irregularity is complicated by vagrancy, petty crime, or by the fact of their having criminal homes." Here they are under the kind and wise care of the Governor, Mr. Thos. Humphreys.

The boys are not residents, but are required to report early in the morning and are allowed to go home in the evening. They are their own housekeepers, are trained for self-support in various trades, as printing, shoemaking, and at the same time given a regular course of book instruction. They are trained to civility and courtesy; to honor and honesty and good citizenship, as a good father would train his child, and they are supplied with good situations on leaving the school. Boys who require still more rigid discipline, and for a longer period, are sent to the board's training ship, *Shaftesbury*. From the training received here they are graduated into the naval service, whence they send back letters to their school officers full of affection and promise.

The purpose of this paper is to show how much that goes by the name of charity and correction in America is made in London a part of the school system. Here, the fresh-air fund, the vacation schools and playgrounds, the visits to the concert and museum are connected with some institution of religion or philanthropy. There the school is made the center and avenue of these benevolences, even tho they originated with some other organization. One of the prominent benevolent institutions of London is known as the London Schools Dinner Association. Two years ago the board took up the question of making this work of giving dinners to the needy its own, and gave it a thoro investigation. By the courtesy of Mr. Graham Wallas, a prominent board member known to us thru his university extension lectures in New York, I had the privilege of listening to the debate of the question for a whole afternoon at the board meeting. The point of its defense was that lunches for hungry children are a regular school appliance; for how could a hungry child get a lesson any more than he could write without pen and paper? He should be made physically able to study as well as required to come to school. The measure gained only fourteen votes from its fifty-five members; it was rejected as a socialistic measure, but it had the serious attention for months of the board, the newspaper, and the public.

In this paternal relation which the board schools hold to the people it would not be for a moment supposed that the moral and spiritual side of education should be slighted, especially when at their organization in 1870 so much of the opposition came from the advocates of church schools on religious grounds. Upon this point I can only take space to say that Bible study is a part of the regular curriculum; that religious instruction is Christian, but undenominational; that the program allows for devotional exercises of Bible reading, prayer, and hymns, but that all religious instruction and observances are held at the beginning or close of the day, and that the conscience clause permitting any to withdraw from these exercises is carefully regarded. I spent a morning hour listening to a Bible lesson in the Prospect Terrace School. It was given, as I remember, by Miss Kershaw, one of the head mistresses. As a lesson in literature and Bible history alone it had a sufficient reason for being in the school program; but the lesson was more than this; it was made a medium for instruction in civil and domestic duties and in piety and reverence; and I do not see how it could be objected to by any parent of any religious faith. I was told that altho the conscience clause is held sacred in all schools, and tho all are free to withdraw from all Bible exercises, very few avail themselves of the privilege.

I cannot review those days of visiting in London without a glow of feeling and a thrill of enthusiasm, yet I can hardly refrain a word of dissent from some features of English discipline which seem out of harmony with the general spirit of good-fellowship between pupil and teacher. All work stops, and the pupils rise and stand when a visitor enters the room, no matter what exercise may be in progress. This marked show of deference to an officer or stranger is not only English, it is Scotch and Continental; but it is very un-American. The general practice in Scotland and England of requiring the children to keep their hands behind them is painful to witness, and I am glad to say that it is un-French and un-Italian as well as un-American.

My enthusiasm for what I had seen in the London board schools I carried with me as I journeyed eastward, but sometimes I found, when I met English tourists, that it was necessary to keep it in an air-tight jar for fear of something, not quite an explosion, in the form of strong disapproval. They find fault with the excessive rates, talk about "fancy branches," and deplore the secularizing of what should be kept under the close guardianship of the Church; but the bitterest complaint that I heard was that these people are being educated out of their class; that they no longer know their place, and they always cited the perplexing problem of the servant question as one of the results of overeducation and school-board extravagance. I mention this complaint as a hint of the obstacle to a more rapid progress in popular education, which would carry it to a point where it would break down all prejudices and unite all classes to its patronage there as it does in our country. In the rural districts the board schools are regarded with increasing favor from people of rank and culture. I was told that the Duchess of Devonshire sends her children to the public school. In the meantime, while those in the advance guard are waiting for the rank and file to realize the value to all of building up the substructure, while they are lifting up the humble and giving hope to the despairing, those who desire to give practical aid to that class in our own cities may go there for a lesson of genuine earnest service. In London they always have the poor with them; and they are coming to stay with us also.

LUCIA STICKNEY

CLEVELAND, O.

VIII

REVIEWS

History of education—By E. L. Kemp. Lippincott's Educational Series. Philadelphia: J. B. Lippincott Co., 1902. 385+xiii. p., including bibliography and index. $1.00.

The history of education, especially as written in the English language, is doubtless far more in need of careful and comparatively exhaustive monographs than of general compendiums. Beginning as it did with the history of educational theories, and particularly of the theories of reformers, which of course presented the most available material, it has been gradually reaching out in the endeavor to cope with the more difficult problems of the history of educational systems and practices, and of the social conditions and philosophical theories by which these were influenced. A comprehensive and at the same time detailed work, such as would be suitable for university classes, must await further results of special research, if indeed that event does not find it too extensive a task for a single man. Meanwhile the teacher of normal-school classes or of brief introductory courses in the history of education everywhere wants as a text-book a brief outline of the material that will summarize what has been done in the further exploitation of the field; one that is, in short, up to date. Professor Kemp is, I take it, endeavoring to meet this need, altho he characterizes his work somewhat differently. He says, "This volume is intended to be neither an outline of the philosophy of educational development nor a congeries of educational facts, however interesting, but such a presentation of the most important events in the history of education as shall keep constantly before the student's mind the true character of its evolution, and, particularly, enable him to understand the genesis and nature of existing institutions, principles, and methods." We may expect, then, not merely an account of educational theory nor of educational practice, but of both in their interrelations.

One may venture to predict that the book of Professor Kemp will be found more nearly to realize this aim than any other in the field. At the same time it has most of the virtues along with some of the defects of a good elementary textbook. It is clear, precise, dogmatic. It hurries us on, hitting off system after system in a few sentences of description, that are usually both plain and vigorous, and we are not confused by overmuch analysis of influences and tendencies. No time is wasted on critical questions nor on probabilities. We are always certain that at the rate we are going we shall surely get thru. On the other hand, it is surprising how many facts concerning schools and practical educational movements Professor Kemp has succeeded in introducing. Moreover, they are usually presented in a vivid and interesting way, and we are not much worried by mere catalogs. What is best of all, these facts are nearly everywhere the primary matter considered, educational theories being shown in their true relations as inspired by the actual conditions, and in their turn influencing these. The book furnishes altogether the best brief text that we have in English for the use of those who want a basis for recitation work with quite definite questions and answers, or for those who seek a running sketch of the history of education.

But however well Professor Kemp may have accomplished what he set out to do, one feels that there is something lacking in the general effect of such a volume, which should be introduced into any good course, even tho it be only an introductory one. We have too much of extension and not enough of intension. After all, the field is so large that no single volume can hope to be more than a map, which gives us the names of places and indicates where we may expect to find mountains, rivers, and oceans, but leads us only a small way beyond mere colored paper. The history of education painted without a background cannot expect to arrest attention for more than a passing moment. One feels that there is not enough in it to make it worth while. The thirty pages that Professor Kemp devotes to Oriental education do indeed contain the essential factors in this, but I should prefer a class merely to have read Professor Laurie's two hundred pages to their knowing the shorter sketch perfectly. If Professor Kemp had used the space devoted to this matter in the interest of a richer, more critical account of the education of classical antiquity, his book would have gained by the exchange. In fact, his treatment of Oriental education cannot be called history in any true sense of the term. Systems of greater or less age are described, a few dates are given, and we are off again to "pastures new." The account of Confucius and his time comes after the Chinese system of to-day has been described, and one does not feel that it matters, so little are we under the influence of an historical sense. In dealing with Greek education the significance of the historical development of Greek society is imperfectly dealt with, and the philosophic movement sketched rather superficially. One feels that the author is writing down to his audience and avoiding anything that cannot be put dogmatically. So, too, the account of Hebrew education is given with little or no reference to modern historical criticism, and Deut. vi. is, without qualification, assumed to give an accurate description of education in the period immediately succeeding the Exodus.

When we come to mediæval and modern education, the sense of a causal succession, which should nowhere be so much emphasized as in a history of education, becomes more prominent. Indeed we are now plainly in the field of a continuous movement, and the events narrated in one chapter have some evident connection with those coming in the next. It is to be regretted that Professor Kemp has not imbued us with this idea of continuity earlier in the work. China and India have, it is true, practically independent lines of development, but Persia and Egypt contribute to the Occidental stream of tendencies, and the connection between the Hebraic life and Christianity seems to warrant more recognition than our author grants it. However, it is difficult to see how the limits of space that he sets for himself would permit any save the most cursory treatment of these points.

As we approach the period of modern education, keeping in mind the purposes of the author, we naturally expect to be given such an insight into the complicated national, political, and religious issues, and into the philosophical and educational problems, as shall make clear the motives and influences that contribute to "the genesis . . . of existing institutions." Here, again, while one finds the book the best short sketch in the field, little is done except to point out the leading events in the way of actually establishing systems; and occasionally to note some connection between the theories and the schools the method of which they influenced. The limits of space again enter in to make history little but chronology. Even for introductory classes modern education needs at least a volume.

Altho, as we have seen, the tone of the book is dogmatic, it has been written, as a rule, with careful attention to accuracy in so far as existing research on these subjects makes this possible. A few inadvertencies occur, as when earlier American colleges are spoken of as universities; *e. g.*, Yale University is said to have been founded in 1701; or when the pupils of German elementary schools are said to find it necessary to leave them at nine or ten in case they wish to enter the secondary schools to prepare for professional life. This is indeed true, but creates the false impression that the pupils in the Gymnasia have come from the elementary schools, which is rarely the case.

The arrangement of chronological tables of important educational events at the end of the chapters is an excellent teaching device, and the introduction of anecdotes in the treatment of educational leaders is often productive of interest, altho one sometimes wonders whether these contribute to our understanding of the situation, or whether, where space is regarded as so valuable, their revealing power can be said to have justified their introduction.

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IX

NOTES AND NEWS

The National Educational Association at Minneapolis

Each new gathering of the great body of devoted and enthusiastic men and women who constitute the bone and sinew of the National Educational Association is a cause for added satisfaction and rejoicing on the part of those who really care for the serious matters of education and of life. Each annual meeting seems to surpass its predecessors in some one respect, or in all. The meeting at Minneapolis was no exception to the rule, and it is open to question whether any preceding meeting has reached so high an average level of intellectual performance. The papers and addresses at the general sessions were almost without exception admirable, and the meetings of the Council were of unusual interest. Dr. Sadler, of the English Education Office, was the guest of honor at the meeting, and his address will not soon be forgotten by those who heard it. The orator's happy combination of philosopher and poet, man of letters and educational enthusiast, made a deep impression upon his great audience.

Each session of the Council was a useful one. State Superintendent Schaeffer opened a very practical debate on the relation of taxation to school maintenance, and Professor Dewey's exposition of the social duty and opportunity of the school was a masterly performance. The brief paper by Miss Anna Tolman Smith was worth the journey to Minneapolis to hear, a tribute which may also be paid to President Harper's summary of the educational progress of the year, which will appear in this REVIEW next month. Dr. Emerson E. White has never been heard to better advantage than in his beautiful and sympthetic tribute to Colonel Parker.

Yet there hung over the meeting a pall of sadness that even the success of the gathering could not remove. President Beardshear, the man whose time and thought for an entire twelvemonth had been given to planning for the meeting, was stricken with illness on reaching Minneapolis, and was unable to attend a single session. It was a bitter disappointment to him and a cause of sorrow to the whole Association. Dr. James M. Green of New Jersey, first vice president, had been summoned back home by news of a death in his immediate family, and the honor and task of presiding over the Association devolved upon the second vice president, Superintendent Martindale of Detroit, who discharged a difficult duty with singular ability, modesty, and skill. Mr. Martindale carried on the business of this great meeting as promptly and as effectively as if he himself, instead of Dr. Beardshear, had planned and arranged it all.

The financial reports showed a net income of $8174.10 for the year ending June 30, 1902, and an invested fund of $98,000. The trustees unanimously re-elected Dr. Irwin Shepard as secretary for a term of four years from August 1, 1902.

The new president of the Association is President Eliot of Harvard, who was elected with every evidence of high regard and good feeling. Superintendent Davidson of Topeka, Kan., succeeds Mr. Keyes as treasurer. President Harper of Chicago University is the president of the Council. If the railroads consent, there is every reason to believe that the meeting of 1903 will be held in Boston.

Declaration of Principles

At the closing session of the Association the following Declaration of Principles, reported by a committee of which Superintendent Mark of Louisville, Ky., was chairman, was unanimously adopted:

The teachers and friends of education, at this, the forty-first annual meeting of the National Educational Association, make the following statement of principles:

1. On account of the increased responsibilities placed on the United States Bureau of Education in the organization and administration of public-school systems in the recently added territory of the United States, in successfully conducting an extensive system of Indian schools, and in aiding the various States and Territories in securing good and efficient school systems, we urge upon Congress the necessity for organizing the

Bureau upon broader lines and clothing the Commissioner with higher and more definite powers. We believe that the time has come for the recognition of the great importance of the educational interests of the country in the conduct of state affairs by the organization of the Departmen of Education as an independent department, taking equal rank with other departments.

2. We reiterate the statement which has so often been made in the declaration of principles of this Association, that the common schools of this country are for the education of all the children. They are the one great agency upon which the nation is to rely for a barrier against the setting up of "class distinctions which have no place on American soil." In them every child must be given an equal chance to acquire such education as will give it an individuality and make it a thoughtful factor in the development and management of social and state affairs. We believe that a conservative but efficient compulsory education law, with the proper regulation of child labor, is necessary to the complete realization of a good common-school system. While we deplore the conditions which seem to make it necessary sometimes to employ children in factories and workshops, we condemn the practice of such employment and ask for the enactment of such laws by each State as will give to these children the chance of acquiring a common-school education of which they are now deprived.

3. We heartily commend every step which may be taken for increasing the necessary qualifications of teachers, and hope soon to see as definite a standard for the training of teachers as is now fixed by the best schools in the country for the training of physicians or lawyers. We believe that the fixing of such a standard and a strict adherence to it would elevate the work of the teacher to that of a profession. We further commend any movement that may be inaugurated for securing uniformity of requirements in the training and the licensing of teachers in the various States and Territories, and which would bring about a just recognition by these States and Territories of the diplomas or certificates granted under this system. The crossing of the boundary line of any State should no longer be assumed to nullify the qualifications of the skilled teacher and the expert supervisor, or the scholastic fitness of men and women whose energies are devoted to the cause of education.

4. Again we would plead for unity of effort for the complete education of the child, constantly keeping in mind that the present division of the work of instruction into elementary, secondary, and higher is for administrative purposes only. The character of the work is not to be influenced by any such division. The growth of the child thru education into full manhood or womanhood is to be a continuous process, marred by no imaginary lines of division. We are glad to note that many of the colleges and universities of the country are obliterating one of these lines by the acceptance of good high-school work as a standard for entrance without examination, thereby admitting that the efficiency of a school system is to be judged by the character and the intellectual power of its pupils and not by their ability to meet a series of technical tests which may in many instances show ability to memorize the printed page instead of power to think and act.

5. We believe that it is both just and possible to keep the country schools in the forefront and, in all respects, up to the highest standard of excellence and efficiency. The movement to consolidate the weaker districts in the country, and to provide public and free transportation for the pupils to and from the schools, tends to that end. We, therefore, congratulate those States which have been pioneers in demonstrating the possibilities of this mode of reorganization, and renew our indorsement and commendation of it as the best plan yet proposed in relief of the isolated one-room schools. We believe that justice and fair play require that high-school opportunities should be as ample and free to the country children as they are fast coming to be to the children of every progressive urban community.

6. We commend to all local authorities the necessity of greater care in the arrangement of courses of study, that they may be adapted to the pupils to be instructed, rather than that pupils should be adapted to a fixed course of study and an inflexible system of grading. We hold that the individuality of the pupil should be carefully considered to the end that he may be instructed in the light of his limitations and capacity. We urge greater thoroness in instruction in the so-called elementary subjects, rather than enrichment of courses already overtaxed at the expense of thoro and satisfactory work.

7. We regard true education as inseparable from morality, and believe that the public school is the recognized agency to make this relation binding. We urge public-school authorities of the country, teachers and parents, to give strict attention to moral instruction in our schools as the true foundation of character and citizenship. Every consideration of good public policy and healthful social conditions points to the necessity of such instruction; the testimony of educational leaders justifies it, and an overwhelming public opinion demands it. We plead not for sectarian training of any kind, but for that moral instruction which must underlie true life and character.

8. It is apparent that familiarity with the English Bible as a masterpiece of literature is rapidly decreasing among the pupils in our schools. This is the direct result of a conception which regards the Bible as a theological book merely, and thereby leads to its exclusion from the schools of some States as a subject of reading and study. We hope for such a change of public sentiment in this regard as will permit and encourage the reading and study of the English Bible, as a literary work of the highest and purest type, side by side with the poetry and prose which it has inspired and in large part formed.

We do not urge this in the interest of sectarian instruction of any kind, but that this great book may ever be the teacher's aid in the interpretation of history and literature, law and life—an unrivaled agency in the development of true citizenship, as well as in the formation of pure literary style.

9. We commend the examples of those boards of education whose settled policy is to employ teachers upon merit only, without reference to political or other considerations. We look with alarm upon any attempt to use the public schools as a means of gain by foisting on the patrons of these schools text-books selected by those wholly unfamiliar with the needs and

demands of the schools. We appeal to the public and the press to resist all such attacks, and we pledge our best efforts to secure absolutely non-political and non-sectarian conduct of the public schools.

10. While there has been great improvement in the construction of school buildings, and better lighting, heating, ventilation, and seating have been provided, yet there is great room for further improvement, and many questions with reference to the most important problems of school architecture, hygiene, and sanitation are still unanswered. We believe there should be a commission created by this body whose duty it shall be to collect all the best information extant on the construction of school buildings and matters pertaining to school hygiene and sanitation, and publish it in a form which will be available for use by school authorities. We believe the good of every community demands that there shall be a regular, skilled inspection of schools in order to protect both the pupils and the community from the spread of contagious diseases, as well as to detect and correct ailments in children which interfere with their mental progress. We further urge that teachers be given such instruction in school hygiene as will make them familiar with many of the physical defects of children and, if possible, with the means of correcting them.

11. Recognizing the necessity of making many changes from year to year in our educational system in order to meet the demands of our social and industrial conditions, and to keep pace with the improvements in both methods and administration, we believe that the committees known as The Committee on Secondary Education, The Committee on Elementary Education, and The Committee on Rural Schools should be re-created as standing committees, to perform such duties as were prescribed for them under the resolutions creating them; each committee to consist of twelve members, four to serve for one year, four for two years, and four for three years; after the first appointment, the vacancies to be filled by appointment for a term of three years. These committees should make report to the Association from time to time, as the growth in education and the changes due to conditions may demand.

12. We believe that a proper conception of what educational work can do for the community and state can best be inculcated by a thoroly wide-awake teaching profession; therefore we cordially indorse the organization of summer schools thruout the country for the instruction and training of teachers by the leading educators. These schools should be centers from which should emanate higher standards of teaching and consequently a better system of schools, thereby securing a sound and intelligent public opinion for the support of these schools, and higher ideals for the life of those educated in them.

Resolutions were also offered by the committee, and adopted, expressing satisfaction at and appreciation of the great gifts to education and particularly Mr. Carnegie's endowment of an institution for scientific research at Washington, commending heartily the work of the Southern Educational Conference and of the General Education Board, and congratulating the country upon the part education is to play at the St. Louis Exposition of 1904.

Dr. Beardshear

The hopes entertained that President Beardshear's illness, tho serious, would not be prolonged and that his recovery would be complete, were bitterly disappointed. His condition continued alarming for some days and after he was able to bear removal to his home at Ames, Ia., no improvement was noted. He failed gradually and died peacefully on the early morning of August 5.

Dr. Beardshear was born on November 5, 1850, on a farm near Dayton, O. He had his earliest instruction in the district school, and at fourteen, still a mere boy, he enlisted in the army of the United States and served with the Army of the Cumberland until the close of the war. On returning home he entered Otterbein University, Ohio, where he graduated in 1876. He then spent two years at Yale, pursuing graduate studies in Hebrew, Greek, philosophy, and theology. For a time he was a Christian minister in Ohio, but in 1882 accepted the presidency of Western College, Toledo, which he held till 1889. In the latter year he accepted the city superintendency of schools at Des Moines, Ia., from which he passed to the presidency of the Iowa State Agricultural College at Ames, which he brought to a leading position among the agricultural and engineering colleges of the country. Dr. Beardshear was a giant in appearance and in strength, but as gentle and affectionate as a child. His wide reading and his love of poetry and art shone all thru his written and spoken speech. In the National Educational Association he had long been a wise counselor and a trusted leader. In him has passed away, all too soon, a character of great force and beauty and a personality of singular charm.

EDUCATIONAL REVIEW

OCTOBER, 1902

I

SOME POINTS OF CONTRAST IN THE EDUCATIONAL SITUATION IN ENGLAND AND AMERICA[1]

That great inspirer of educational interest, Colonel Parker, used to pray to be delivered from foregone conclusions. Every student knows how hard it is to clear his mind of prepossessions and of bias when he tries to measure the good and the evil in so intimate and intricate a thing as a system of national education. But shall we not do well to be on our guard, not only against foregone conclusions, but also against those which are premature and superficial? We slowly come to understand how hard a task it is to trace the subtle tendencies, and to probe the secret hopes, of an educational system, of which we ourselves, by birthright and upbringing, have had long and close experience. How much more, therefore, is it right for one to shrink from any feeling of self-confidence in reviewing the educational situation in another country, of the inner life of which, deep as his sympathies may be with what he believes to be its central and animating principles, a stranger can at best know so dangerously little.

I need not, therefore, ask you to excuse the tentative form of this address. It would be an impertinence for me to speak to you in any other tones. And the more ambitious my theorizing, the more disastrous would be my fate at the hands of critics who, like so many of my hearers, are steeped in the knowledge of those educational affairs which I have only observed, and that somewhat hurriedly, from the outside.

[1] An address delivered at Columbia University, July 18, 1902

First of all, let me briefly recall to you certain broad and simple facts which have had a governing influence on your national life and therefore on your national education.

The streams of immigration which trickled into this country in the course of the seventeenth century bore with them strong views, or at least ingrained habits of mind, in regard to the aims, the forms, and the functions of government. But broadly speaking and with due allowance for such disquieting phenomena as Roger Williams in Salem, the various types of political and ecclesiastical affinity naturally sorted themselves out in different localities, so far separated as to allow of the healthy development of somewhat disparate ideals of social order. True it was that, as became plain in the revolutionary struggle at the close of the eighteenth century, a common instinct for independence from European control animated the great majority of the inhabitants of the British Colonies in North America: but there was also, amongst the colonies themselves, an inner conflict of social ideals, which under the stress of later economic development revealed itself in that great struggle between North and South, now hallowed by heroic memories of valor and self-sacrifice on either side and in its issue the seal of the true unity of the American people. These conflicting ideals of social order revealed themselves partly in the unit of local administration—viz., the county and the town; partly in preference (not equally serious on both sides) for this or that form of ecclesiastical organization; but still more characteristically in the very different attitude taken by Virginia and New England toward the task of common education. But it was a matter of no small moment that these differing types of social ideals were segregated from one another at different points in the long Eastern seaboard of this continent. Now in England these two ideals, and the people in whose heart's fiber these ideals were embodied, were intermixed in one small kingdom, and in almost every separate part of it. Hence came the two most important of all the emigrations to America in the early part of the seventeenth century; hence our English civil war; hence, in our despair at reaching an ultimate settlement of these problems of human destiny and of State rights, either by the arbitrament of the sword or even by the process of incessant debate, like that which Sir Walter Scott has pictured for us in the opening pages of *Woodstock,* we in England welcomed the vague political and religious compromise which enveloped us during the later years of the seventeenth and the earlier half of the eighteenth century, and which, by its baffling repression of any tendency to embody unflinching logic in clear-cut schemes for social reorganization, turned the thought of so many of our bolder and more adventurous spirits to the winning of a new Empire in the East. Hence, too, because we have differed so profoundly on many of the religious and political conceptions which lie at the root of any system of unified national education, we have never yet succeeded in building up one simple fabric of common schools, supported by all, congenial to all, beloved by all. During the last two hundred years there have been two serious attempts to organize English education from top to bottom on the basis of one common principle and of unified conviction. Each of these efforts was inspired by a profound belief in the necessity for a common system of national education, so constructed as to be coherent in form and aim from bottom to top. The first of the two attempts was made by an influential group of leaders in the Church of England at one of the noblest periods in her history: after a long and obscure struggle the attempt was stalemated—necessarily and rightly stalemated—by Dr. Joseph Priestley and the Nonconformist interest. The second attempt was made by Robert Owen on the basis of scientific rationalism illuminated by a truly religious passion for social reform. His attempt was checked —necessarily and rightly checked—by the deeper insight and more spiritual conceptions of the leaders of that movement in English thought and feeling which was interpreted to us by Wordsworth, by Samuel Taylor Colebridge, by John Keble and John Henry Newman.

Again, three times within the last two hundred and fifty years we have drawn very near to the ideal of a system of national education which, by the frank recognition of differences, would have attained administrative and spiritual unity on a higher plane. Three times the attempt has failed—failed partly thru the perversity of narrow-minded partisans, partly thru the disastrous influence of jealousy, but partly too thru the unwillingness of good men, on both sides, to surrender what they conceived to be points of essential principle. These failures to attain comprehension combined with administrative efficiency form the tragedy of English education.

Secondly, the history of education is in large part a study of controlling traditions—social, economic, intellectual, and spiritual traditions. The most significant things in it are often the unconscious things; not the things that we do, but the latent premises which color or govern much of our ordinary thinking—our individual thinking, and still more our group-thinking. In the study of national education one of the most fruitful lines of thought is to investigate the real reasons for the absence of certain obviously desirable things in a national system of education; for example, to consider why it is that in England, until quite recent times, history has been, as a rule, so mechanically and uninterestingly taught, tho we have one of the most heart-stirring histories of all the nations in Christendom; and why, tho our masters of prose and verse are among the most precious parts of our British inheritance, we have, as a rule, done so little to familiarize our children at school with these beloved masterpieces or even to train them to skill and power in the use of their mother tongue.

The study of the history of American education, too, is in large part a study of controlling traditions. But with you, the old tradition, in passing from the old world to the new, suffered a sea-change. Much came; but much of the ancient power of certain subtle, immemorial influences was left behind. It has been on the whole, (at least that is my judgment), good for the world that this was so. One illustration of this weakening of the grip of the old educational tradition must suffice. The early laws of Harvard College (1642-46) required every scholar to be able, before admission, "to make and speak true Latin in prose and verse." But the American climate proved fatal to this transplanted tradition. Yet in England Dr. William Harvey was at the same time writing notes for his lectures in which many of the sentences are a mosaic of English and Latin. "Exempto corde, frogg scipp, eele crawle, dogg ambulat." Forty years later Locke advised English parents to have their boys taught Latin as a spoken language, like French. Early in the eighteenth century the great Dr. Wake, Archbishop of Canterbury, carried on his famous negotiations for religious reunion in Europe by means of letters written—not in French, but—in Latin. A generation later, John Wesley, landing on the continent of Europe, naturally spoke Latin with the cultivated men whom he met. Early in the nineteenth century it was in Latin that Keble lectured on poetry to the University of Oxford, and was followed by his audiences with the delighted and intelligent attention with which we, at a later day, loved to hang on the lips of Mr. Ruskin; and Isaac Williams, most truthful of autobiographers, tells us that when a boy at Harrow, during the last years of the long reign of George III., he was "so much used to think in Latin, that when he had an English theme to prepare (which was very rarely) he had to translate his ideas, which ran in Latin, into English."

Thirdly, you have had to subdue a continent—a work the marvel and the mastery of which we cannot yet fully appreciate. Under the Providence of God two great forces have enabled you to accomplish this work. First, your resourceful endurance, and secondly, applied science. What a brilliant and fertile combination has been this of undaunted courage, adaptive ingenuity and appreciation of the practical value of long and costly periods of unseen, patient, scientific research. And who shall say how much of the last element in the triple thread of American greatness has come to you from Germany? The figure of that wise, learned, patient, soldier-teacher Steuben, devoting himself to the scientific training of the American army during that critical winter at Valley Forge, is a type of what German science has since done in so many other fields of human effort, by combining itself with the resourcefulness, the verve, and the shrewd practical insight of the American nature. And what a wonderful power had Washington of going to the heart of things, and of rising above personal pique or national jealousy in thus discerning the value of the gift which the foreign soldier-teacher had to bring.

Fourthly, you have been confronted by the great task of fusing into one nation, under one flag and speaking one speech, those diverse races which pour into this continent in an almost unceasing stream. The common public school is, of necessity, one of the most important—probably the most important—part of your national machinery for assimilating these extraordinarily varied materials.

Hence the universal recognition in America of the political, practical, and economic importance of a first-rate public-school system for the whole people. Practical necessity, not less than reasoning and human sympathy, has led you to discern the deep significance of national education to a degree which in England the masses of the people have not yet attained. Great indeed and grave is our need for searching and comprehensive educational experiment and reform. But it must never be forgotten, in comparing the position of public education in America with its position in England, that the imperative need for sustained, scientific, unstinted expenditure on the best possible kinds of public education for the whole people has been made, by the obvious facts of the case, more striking and impressive to the whole community here than with us in England. Ours is a scattered empire. Here every freight train is an object lesson in continental geography and in the economic unity of the American people.

From these more general topics I turn for a few minutes to a review of some of the educational facts which seem to have followed from the historical and social development of this country.

(a) Twenty years and more of education on modern lines seem to the traveler from Europe to have given to the United States a strong type of keen-witted, hard-working, self-controlled young men, and a very influential and public-spirited multitude of college women. We in England thankfully recognize the same types in our own midst—but the numbers and the influence of these younger men and women seem to me to be relatively greater here than with us. Here, it seems to me, the young man is having his innings. With us the older men—hale, respected, but just a little cautious—are still at the wickets, adding to their long score. Every now and again one hears in the crowd a muttered wish that they would slog a little harder. But it is a great thing for a country to have so large a number of men old in years and yet able to bear the burden of heavy administrative responsibility

(b) Schools alone, however, would not have given you your fine type of young men. Something else was needed to produce that. I mean, the sense of wide opportunity. More and more do I come to feel that this is one of the central reasons for certain differences between your secondary schools and ours. An American boy feels that, if he works hard, shows sense, and keeps bright, he is bound to find opportunity of success. An English boy grows up with a puzzled wonder where in his crowded island he will find a promising opportunity for professional success, or even for industrial or commercial effort congenial to his taste and appropriate to his level of general education. This baffling sense of a strangely limited horizon of personal opportunity is one of the subtle causes of our present educational hesitancy. Can you wonder that so many of our most active-minded educators and statesmen feel it essential to the free development of our national vigor and intelligence that our boys should be taught to think of their after-life in terms—not of England alone—but of Empire?

(c) This sense of opportunity which is so characteristic of American life seems to me to be connected with yet another feature of your education. Your boys and girls have much more choice in their studies than, as yet—as a matter of actual practice—ours have. This greater power of choice naturally comes to those who know, or think they know, what they need. The English student is struck by the fact that your American schoolboys and schoolgirls are much more openly critical of their teachers than English boys and girls are commonly encouraged to be. I fancy that the career and happiness of a teacher in America depend much more largely, than with us in England, on the suffrages of those who are taught. This must certainly stimulate adaptiveness on the part of the teachers—tho I am inclined to suspect that there is a rather darker side to the situation than at first sight appears. Anyway, if the jargon of political philosophy permitted it, I should be tempted to define American educational government as a paidocracy—tempered by expert superintendence on short tenure.

(d) It is an old commonplace that schools and colleges exist to prepare us for life. The difficulty is for them to know how to do it when the conditions of social economic life are changing with a rapidity almost, if not quite, unparalleled in the history of human culture. You in America seem to me to be engaged in an immense effort to get your schools and colleges into true gear with the practical needs of life. Hence you are tearing out in all directions those portions of subjects or parts of curriculums which seem to you unessential. But the difficulty is to say with certainty what are the essentials. And, as life is becoming more and more differentiated, there arises a need for much greater differentiation in types of school. Moreover, this differentiation is not a matter of the last few years of high-school or college life. Its demands affect much earlier years of education than those. And the differentiation is required not only by the difference in life-aims of the pupils, but by far more subtle differences in temperament, in mental aptitude, and in ethical need. This is the true cause of the educational unrest which we can see all over the world at the present time. This is a period of educational ferment, comparable, as it seems to me, to that earlier period of educational ferment which preceded the French Revolution. Much that looks like progress and constructive advance in education at the present time is really the working of a critical and destructive movement washing away the more obstinate fragments of an obsolete system of education, which, in its time, had a very real relation to the actual needs of certain kinds of life.

To me, the educational movement now going forward in America seems the most striking and forceful of all the educational movements in the world. It is on the largest scale; it is supported by the most superb liberality; it is the boldest in its ventures; it is becoming—largely thru the influence of the President of Columbia—truth-seeking and truth-inspiring; scientific in its dispassionate self-criticism; and it is supported by the most whole-hearted national enthusiasm. We educational students in other lands hail its great achievements and its still more brilliant future. Silent admiration best befits us when we think of the future of your great universities—and of what their influence already is and will be on their sisters in the Old World. The science and art of education are being profoundly influenced by your work here in the training of teachers; by your experimental schools; and not least by the currents of suggestion and of encouragement which go out from Teachers College and from the Department of Education in this University, at Clark University, and at Chicago. You in America, and not least the educators of the West, are working out fertile experiments in the field of secondary education on modern lines. You from the North are carrying the torch of educational propaganda over the length and breadth of the awakening South. And in the great work at Hampton and Tuskeegee there is shaping itself in successful practice that ideal of training which seeks at once to deepen character, to engender loyalty to a great institution, to educate for the practical labors of life, and to avoid, in its cultivation of the powers of mind, of character, and of expression, any disproportionate use of books or of ill-digested ideas, and of the verbal memory.

How different are your educational problems from those which we have to struggle with in England. The strong points of the best types of English education seem to me to be an unhurried, steadfast pleasure in the great masterpieces of literature; its dislike of false sentiment; its reserve and wholesomeness of tone; its shrinking from pretentious philosophizing; the good spirit of its games; the beauty of some of its old buildings and playgrounds; the unselfish and lifelong devotion of its best teachers; the training which it gives in the government of others and in the leading of men; and in its undercurrent of reverence for those deeper, unseen things which lie almost beyond the reach of words.

Its weakness lies in its lack of widely diffused intellectual interest; in its failure to stimulate the brain power of the average boy; in its deficiencies in regard to the professional training of the teacher; in the aloofness of so great a part of the studies in many of our chief secondary schools from the scientific, political, and ethical problems of the present day; in its ignorance of what scientific research and scientific co-operation really mean; in its good-natured reluctance to press to a logical and practical conclusion some things which must be settled one way or the other, and cannot (without peril) be left in the dim region of indefinite compromise; in the indistinctiveness of its intellectual and social aims; in its unwillingness to attempt a bold questioning of the lessons of our history, and to impress definite teaching derived therefrom on the whole of the rising generation of our people; in the resultant confusion of our school system; in the labyrinthine intricacy of its organization; and in its consequent failure to impress itself on the imagination and clear understanding of the masses of the people.

But much of this mischief comes from our having attempted, and rightly attempted, to combine different aspects of truth in our body politic. We have never really unified ourselves. Slowly, very slowly, a sense of real communal unity is developing itself. It showed itself first in the conviction that every good school ought to give to some accredited public authority evidence of the efficiency of its stewardship. We therefore devised the system of examination of certain kinds of intellectual output by external examining authority, because no more intimate or searching form of communal control was acceptable to the individualistic temper of our English middle class. The analogy between external examination and an independent audit of accounts delighted the plain business man. And thus we put on to ourselves, for the best of motives, that Nessus-robe of external examination which English secondary education must, as it seems to me, cast aside at almost any cost if it would regain true freedom for growth and real artistic happiness in the great creative work of teaching.

But different from yours as it is and must be, the educational movement in England is hardly less interesting than that in America, tho in its operations it is far more obscure. It is full of cross-currents; very sensitive to conflicting claims upon its allegiance; tender in its loyalty to the past as well as eager to adapt itself to the needs of the future. We in England have a complex past; we are at the center of a complex empire. Our individual life, our national life, our new imperial life, are each of them strangely full of different elements and of distracting claims. We are unable to put our difficulties into words; yet you will understand that we feel much that we cannot express. We are unwilling to sever ourselves from our old ties, or to dispense with old guides and teachers whom we love for their own sakes, and not only because they have served us so devotedly and well. You must expect us to be slow in our educational changes. England is not lethargic, but profoundly moved by the swirling currents of change in our modern life. It would be wrong for us to break with our past. We can best do our duty for the world in the future if we refrain from impetuous, revolutionary change. But because this is our lot in this time of deep unrest—because there is laid on us the duty of sacrificing much that is good and profitable in the present, in order that we may be faithful to what is true and sacred in the past; because it is now, as ever, our supreme national task to preserve what is good in two ideals which, tho they appear to conflict, are really two sides of one higher truth—for these very reasons we admire the more the superb sweep of your educational advance, your clear administrative aims, and the rich variety of your buoyant life.

MICHAEL E. SADLER

LONDON, ENGLAND

II

HOW THE SCHOOL STRENGTHENS THE INDIVIDUALITY OF THE PUPIL[1]

It is often said that a common-school system tends to cast all children in a common mold and thus destroy or suppress individuality. The common course of study, the three R's, geography, and history,—the uniform disciplinary pressure insisting on regularity, punctuality, silence, and industry,—the action and reaction of one pupil upon another,—all these result in a self-adaptation of each pupil to the social standard of the school as a whole, and all these things are alleged to have only a leveling influence and to produce a common type of character, almost reminding one of the uniformity of product of the machinery of our manufacturing establishments.

This view has some plausibility, especially when one believes that the school produces a mechanical effect upon the child. But its plausibility grows less and less when we consider the actual relation of school industry to the production of individual power.

The good school will make its pupils alike in obedience to discipline and as to the possession of a knowledge of mathematics, geography, history and language, literature, etc., but this means that it will make its children alike in possessing the power of developing and expressing their individuality.

Take first the most mechanical side of school education, namely, its discipline. The pupils are required to be regular in attendance on the school sessions, and their coming and going is regulated by minute prescriptions as to time of entering and leaving, as to taking up each study, and attendance upon recitations or class exercises. This in school parlance is called punctuality. Regularity and punctuality secure rhythm of action, and each pupil, by the acquirement of these semi-mechanical habits, makes possible school instruction. He learns to combine with his fellows. Without regularity and punctuality one cannot have concert of action. The work of a social whole becomes impossible. The sort of individualism that is left after taking away social combination is such as belongs to the isolated man, and on a large scale it produces the most degraded specimens of humanity. The Robinson Crusoe who has to do everything for himself does nothing well. But when he associates with his Friday as a co-worker he becomes, not twice as powerful, but four times as powerful. Ten men combined are a hundredfold more powerful than ten men isolated the one from another.

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[1] An address delivered before the National Educational Association at Minneapolis, Minn., July 11, 1902.

To give to each person in the social whole the net results of the experience of all his fellows is the object of education, and indeed it is the object of social life as a whole. Man is fitted by his faculties for this vicarious process of sharing the experience of others—he can live over in himself the lives of his fellow-men without having actually to make all the original experiments and suffer all the temporary defeats and disappointments incident to the career of first experience. But the errors and defeats of one person save his fellows from repeating precisely the same experiments. It happens that ninety-nine one-hundredths of one's doing and thinking in a well-educated community is guided by the prescriptions of educative agencies of some sort. There are educative influences, first in the family, second in the industrial community, third in the political state, and fourth in the church—taking the church in a broad sense as the collective instrumentalities that teach the accepted view of the world which is expressed in the prevailing civilization. The so-called uneducated person who has never been to school is all the more a person who follows the use and wont of his community—he has a little bundle of habits that he has learned in infancy from the family, and he follows them as if they were instincts or automatic impulses. He acts mostly from his spine or occiput—what are called the lower nerve centers—rather than with the cortex of his brain, which is used by the thoughtful person. The lowest savage has his traditions just as the highest representative of civilization has. His traditions enable him to follow the use and wont of the tribe to which he belongs. All of the tribal facilities combined do not suffice to give its individual members an ability to go outside of the narrow limits of the tribal territory and make business combinations with surrounding peoples, nor to share with those peoples in their views of the world, discussing with them their theories and thereby gaining more profound views. Each person in the community is continually making some observations upon nature, or thinking out the causes and results of facts and events in his experience. To share in the aggregate results of the observations and reflections of one's tribe, one's nation, or of the world's civilization, is a very important privilege in any case, but the privilege varies in value enormously according to the scope of the participation involved. It is a good thing for the unlettered peasant to learn by hearsay from his fellows what they know by experience and what they have thought out. But it is incomparably more useful to be able by means of books and the printed page to have access to the observations of all men who have observed and reflected in all times and places. School education, as distinct from the education of the family, the state, the church, and the industrial community, aims to give the means of access to the storehouse of observations and reflections of men in all ages and in all climes. This, I have already said, is a help to the development of individuality. It gives it the necessary means of expression. It stimulates the individual to travel out of the beaten paths of his neighborhood, to emulate the great men of the world and climb the heights of achievement.

One may see what the school means in the development of individuality by going over the traditional course of study in our schools. This course of study excites our admiration because it has not been made by the wisdom of a few men getting together as a committee, but in its substantial outlines it is a growth rather than a conscious product. The use of the written and printed word is the first object of the school instruction, and it changes the child from ear-mindedness to eye-mindedness. Confined to the use of words known only by the ear, the individual has great difficulty in acquiring or understanding a technical vocabulary. The cultivated man, whether literary or scientific, thinks in the form of printed or written words, and accordingly thinks in accurate technical terms and has at his command fine shades of expression.

Stop and consider at this point whether the individuality of the child is not reinforced by the power to use these instruments of reading and writing. Without instruments he has a small scope of opportunity to act and to express his individuality. Armed with the arts of reading and writing, the opportunity of gaining facts and ideas from his fellowmen is increased indefinitely. He may manifest his individuality in a thousand new ways. By this process he will develop his individuality where it could not have been developed for the lack of the proper means. The experience of the illiterate person is limited to what he can observe in himself and in a small circle of neighbors. But his school-educated companion who can read, and does read, is all the time widening his mental view by what he gets from the printed page. He is all the time growing and with increasing rate of progress in accuracy of thought, and at the age of fifty years he is going far more rapidly than at the age of forty. In fact he continues to grow more rapidly at sixty or even at three score and ten, if he reaches that age, than at any previous epoch. The illiterate, after leaving school, perhaps doubles his power just merely by oral intercommunication with his fellows in the course of thirty years of his life, but the average school-educated person who can read, and does read, grows at least ten times as much.

Who care for the individuality of a person who cannot aid heroically in the conquest of nature or in creating social combinations and the development of institutions for the benefit of man? The individuality of the illiterate is mostly an unrealized possibility. The school helps the child to realize his individuality by getting hold of the instruments and appliances which form the right means for adding to his personal experience the vicarious experience of the race. Hence the school-educated is able to reinforce himself by the social whole.

The branches of study in the elementary schools include not only reading and writing, but also arithmetic, geography, the grammar of one's native tongue, and the history of one's nation. Every one of these branches endows the pupil with some insight which gives him an increased ability to solve the practical questions of his daily life. Take arithmetic, for instance: the savage who cannot count beyond five or ten is limited and hampered in making combinations of things and forces. It is next to impossible to effect exchange of the most necessary articles without arithmetic and the merchant class of persons. This class becomes very numerous in the highest civilization. Its sole business is to collect and distribute the productions of industry, and it can scarcely be said to exist in the tribe or in the illiterate orders of civilization. Karl Marx, in his book on Capital, a book that forms the Bible of modern socialism, reduces the employments of mankind to two—(*a*) the production of commodities and (*b*) the exchange of them. He invents an algebraic formula to express this and to show the relation of labor to capital. C—M—C means the circulation of productions thru the aid of the market. C (or Commodities) are sold and converted into M (or money), and then the money (M) buys Commodities (C) again. The laborer has brought his productions to the world market and exchanged them for what he needs of food or clothing, creature comfort or culture, and the circle is complete. Marx would minimize the usefulness of the middle term M (or Money), which represents the class of men that are capitalists and merchants. Their formula is not C—M—C, but M—C—M, he tells us. They start with money (M) and with it buy commodities (C), but they buy only to sell again—they convert their commodities (C) into money (M), and aim to increase their capital by the exchange. M—C—M—money becomes more money by buying and selling commodities. But Marx does not seem to notice the importance of a world market or indeed of a market of any kind. He supposes that that will come by nature just as grass grows.

But the fact is (and this is my reason for mentioning Marx in this paper) that the person who invents the machinery of exchange and the world market is by far the greatest benefactor, because he takes things from the place where they are not wanted and carries them to the place where they are wanted—he converts mere things into wealth, he makes them property or capital. He unites widely sundered peoples by ties of mutual service. This gives us a glimpse of the way in which the school with its three R's performs its function of stimulating individuality—for the school-educated boy or girl sees more possibilities in each thing of nature than the illiterate sees. He has also acquired an appetite for social combinations and has obtained directive power to put together things into a machine and link man to man in a manufactory.

If one takes the view that the so-called middlemen, those who collect and distribute, are not producers in the sense that they add wealth to the community, he should revise his theory, considering that the surplus productions are worth little or nothing unless they are carried from the place where they are superfluous to the community that needs and wants them. The immense peach crop of New Jersey would be of very little value were it not for the markets of Philadelphia, New York, and the merchant class of the population as well as the class engaged in transportation. The one billion of dollars annually earned by freight of goods in the United States adds just that amount to the value of the goods transported.

The study of geography in the elementary school substitutes for exaggerated, distorted, monstrous superstitious notions a reasonably accurate view of the physical world as the habitat and working field of man. It contributes much to the ability of the child to read and understand the daily printed information that comes before him regarding the noteworthy events of nations and peoples living on the face of the earth. What a lameness to the individuality, no matter how much gifted by birth, but which labors under the disability of not having learned anything of geography!

Think of grammar and its bringing to consciousness the parts of speech. This study develops the power of introspection more than any other subject. It enables one to analyze readily and accurately a complex statement or a complex nexus of conditions presented to him, and gives him a growing power to separate the essential from the unessential, and to discriminate things and forces and reach clearness thru a connected process.

Then the history of one's country, the story of the rise of its nationality, its collisions with other peoples, the heroic personages in its gallery of worthy men who have by supreme self-sacrifice earned the respect of their countrymen—what a lame individuality would result if the knowledge of one's national history were missing, or he possessed only such a knowledge of it as could be obtained by hearing the anecdotes of idle men, for we must remember that oral information comes mostly from idle people. Those who are engaged in the highest and worthiest undertakings do not have leisure to recount to their fellow-workers any systematic view of the fragment of history in which they have personally borne a part.

If the school teaches all of the children of the community the good habits of regularity and punctuality it does so much toward enabling each pupil to work in the social combinations that exist in every civilized community. It gives him some power himself to direct these combinations. Directive power is a higher manifestation of individuality than that which simply obeys direction from a leader. The school habit of silence, the repression of one's tendency to prate and chatter, is another element of directive power quite important. The ability to dig out one's lesson from the printed page and to learn to be critical and exacting in sifting the statements of others is also another service which the school contributes to the development of the individuality of the child. One kind or method of attention is developed in the school by requiring the child to study the text of his book by himself and master its contents without aid from teacher or fellow-pupil. The child learns to look below the surface and to seize the principle involved. He learns to overcome by patient and continued industry difficulties which at first seemed altogether insurmountable. The other kind of attention is that cultivated in the class exercise or recitation. All of the pupils concentrate their attention on the statements of the pupil who is reciting, and on the cross-questioning of the teacher. It is a dialectic which calls for alertness and versatility of mind in the pupils who take part in it. But this kind of attention is not a substitute for the other one just mentioned. It gives one self-possession in the presence of difficult and unexpected emergencies, but it is not a substitute for the patient industry which absorbs itself in a study of the object and its causal relations.

The studies of the school, on the one hand, develop a knowledge of nature and arm the mind of the pupil with the experience of those who have conquered or are conquering nature. On the other hand, the school studies relate to human character and arm the pupil with a knowledge of human nature. Of the latter character are all of the fine literary selections in the school readers. Each one of them gives a glimpse of human nature; it relates to what is generally subconscious—below the threshold of consciousness in the ordinary person's mind. The poet or literary man has succeeded in giving a worthy and elaborate expression to some one or more phases of human experience and thereby making a conscious expression of this forever the possession of his fellow-men.

One will admit that there is a metaphysical catch involved in this complaint against the school that it has the effect of obliterating the native individuality of the child. The history of the United States shows that persons who go out to the frontier as pioneers prove themselves to be full of resources in the way of subduing the wilderness and converting it to human uses, destroying wild beasts, defeating the Indians and banditti, and the like adventures. This would be called individualism by most people, but it is a very small part of individualism. The individualism which one wishes to cultivate in urban society fits one to become self-directive among his fellow-men, and not merely to be effective against wild nature at first hand. In order to hold one's own in the midst of the urban or industrial civilization it is necessary to have a knowledge of human nature, and a knowledge of the motives and purposes of one's fellow-men—yes, of the essential aims of the civilization in which one lives. It should enable one to select his vocation intelligently and make a success of it in a competitive civilization.

The one with small individuality takes his initiative from others and does not strike out for himself. He is dragged or pushed along, and does not contribute his quota of directive power to the community. This second kind of individuality, which can hold its own in an urban civilization, is scarcely considered by most of those who talk or write on the development of individuality, and the very best training of this kind of individuality—namely, that in our large schools—is therefore popularly supposed to have the effect of obliterating individuality. This kind of individuality is the most important of all individuality—it is civilized individuality. The development of this higher order of individuality can take two directions:

First, that of resistance to the influence or demands of the social whole. This development of the individual makes him disobedient at school and a criminal in society, and converts his career into a zero by uniting against him the organized forces of the community.

Secondly, the development of the individuality may take the normal direction of mastering the motives and purposes of the social whole and growing into a leader of some one of its manifold interests. This lies in the direction of attaining skill in a chosen industry and in attaining thru letters a knowledge of science and philosophy which are social aggregates of observation and reflection; a knowledge of history which shows the nature and behavior of social organizations, especially of the state and church and civil society; an acquaintance with literature which reveals the depths of emotion and feeling, and shows how feelings become conscious thoughts and actions, literature in this respect being the study, *par excellence,* for giving a knowledge of human nature. Besides this, the pupil needs a training in the control of his individualism for purposes of intelligent co-operation with others, and he gets this in a large school better than in a small school, and he gets it in a school far better than with a private tutor or by himself in the family.

Dr. Thwing, who has written so much and so well on the higher education, has shown by the statistics of men distinguished for letters and science and in the practical fields of activity that the college graduate is two hundred times as apt to become distinguished as the rest of society—his chances of originality by the cultivation of a higher order of individuality that can leave the beaten path and accomplish something that earns him the gratitude of his fellow-men are two hundred times those of the ordinary man who has not received a higher education.

Whatever gives to the mind a larger view increases individuality; whatever gives to the youth the power of self-control and of inhibiting his impulses and whims for the sake of combination with his fellows increases his higher order of individuality and makes him a more worthy citizen, and in doing these things the common-school system is performing its greatest work.

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III

THE EDUCATIONAL PROGRESS OF THE YEAR 1901-02[1]

In attempting a survey of the progress of educational work during the period of a single year, one quickly discovers three or four things: (1) that such a survey will contain no adequate presentation of the mass of material which may rightly lay claim to be included—a volume of hundreds of pages being hardly sufficient, much less a paper of forty or fifty minutes; (2) that no sharp line can be drawn between different years, since the more important events really assume the nature of movements, and most of them cover a period of several years; (3) that prejudice against taking forward steps in education has been greatly diminished, and skepticism as to the value of the old conventional usages in schools and colleges is largely on the increase; (4) that, whatever may have been true in the past, no very close connection any longer exists between the educational movements of England and the Continent and those of our own land. At all events, we may no longer be counted merely as followers; in some respects, we may perhaps claim the position of leadership.

In the field of elementary education the most significant single event—that which has touched the largest number of persons and affected them mostly keenly—has been the death of Colonel Francis W. Parker. As in the case of most men who have accomplished much, the greatness of his work was not fully apparent until he was taken away. The universal appreciation of his leadership, the universal testimony to the greatness of his career, and the universal mourning over his sudden death, together constitute the most striking event of the year. That he should be taken away at the very moment when he was about to enjoy the fruition of a lifetime's work, and that he should not be permitted to enter the buildings on whose plans he had spent so much time and energy, was indeed pathetic; but that he had built foundations broad and strong for future work in the field of elementary education; that he had made noteworthy contributions to the cause of public-school education; that, indeed, he was one of the great leaders of the last quarter of a century, is everywhere acknowledged. Altho he was an officer of the University of Chicago, I may be permitted to say these things, in view of the fact that his connection with the institution was so brief; and I am sure that the general educational public will approve the policy adopted by the university, to go forward with the work which he established and to undertake the accomplishment of this work in accordance with his purpose and his spirit. To this is pledged the faculty of the School of Education, so closely connected with him personally and officially, and to this is pledged also the new director, Mr. Dewey. It is not too much to expect that this faculty shall develop, on the foundations which have already been laid, a great and noble institution from which good and only good shall emanate for the public-school system of the country.

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[1] Report made to the National Council of Education, Minneapolis, Minn., July 7, 1902.

The curriculum of the common school in these last years has greatly expanded, and now includes much material drawn from the departments of natural science, drawing, art, manual training, as well as from those of history and literature. This material is so various in its character and so large in its amount as to produce " a stuffed condition of the school course which occasions uneasiness and distress." The " new education " has given us certain problems that urgently demand solution. It is generally understood that these problems group themselves under two heads: (1) how to select in each department of study the most important topics for treatment, and (2) how to bring these various departments of study into such relationship with each other that each will contribute to the other, and that waste shall be reduced to a minimum. So far as I am able to gather the facts, it may be said that no new principles or theories have been projected during the past year. Leaders in the new education have concentrated their efforts upon its practical side. In many quarters there has been conducted quiet investigation of the problems just mentioned. The educational theory and practice which is based on the teachings of psychology and the history and development of the culture of the race is becoming more and more generally accepted; but it requires just such critical and scientific study as that which is being given it in educational circles thruout the various sections of the country. The changes that have already come are almost greater than can be calculated. It is essential, however, that the severest tests be applied, and that the most rigid scientific criticism be encouraged.

No one can fail to see the increasing acknowledgment in the modern education of the child of the importance of training in æsthetics. In more than one great center there has been manifested a growing desire to decorate and beautify the buildings. It has been suggested that perhaps in no former year has greater interest been taken in the architecture of the school buildings than during this year. The work accomplished in this regard in the cities of Boston, New York, and Chicago deserves especial mention.

It is true, perhaps, that the teacher is beginning to recognize more clearly the importance of study for the sake of information as distinguished from that of method study. This difference is the old bone of contention between the normal school and the college. A radical step, and one which seems to acknowledge this general principle, has been taken during the past year in the city of Chicago. The city normal school, whose function it is to train teachers for the elementary field, has advanced its course of study to three years, and has made its requirement for admission co-ordinate with that of the leading colleges in the country. This step will surely be followed by other normal schools. In establishing and maintaining such scholastic standards, the public normal schools join with the schools and departments of education in the colleges and universities to strengthen the equipment which has hitherto seemed sufficient for the corps of elementary teachers. The old requirement was that of the high-school curriculum, with the adding of one or two years of professional training. This means that larger familiarity with the subjects taught—in other words, broader scholarship—will henceforth be demanded. The most serious drawback to the advancement of the work in the elementary schools along the lines of the educational theories of recent times has been the utterly inadequate scholastic training of the teachers who undertook professional investigation. This need of broader scholarship has nowhere been more deeply appreciated than among the teachers themselves, and in testimony of this statement we need only recall the interest and support of that great multitude of elementary teachers who spend a part of their vacations in the summer schools and colleges. The encouragement of summer study by the superintendents of the great cities, and the avidity with which such opportunities have been seized, present a situation heretofore unknown; and one from which the greatest possible results may be expected. It is not method study simply that these teachers hunger for; it is rather information on special subjects in which they have discovered their weakness.

This suggests another characteristic of the teacher's work, which stands to-day in marked contrast with that of even recent years. I have in mind the larger freedom accorded each individual teacher: freedom from the old conventions and ideas as to what constituted curriculum as well as method. The breaking up of these formal conceptions has resulted in a spiritual liberty formerly unknown and capable of producing the largest efficiency in the work of the individual teacher. The work is no longer so mechanical. The presentation of these new subjects compels variety of method, and it is a noteworthy fact that with this greater freedom from conventional treatment there is a growth of mind and spirit which gives an inspiration and arouses an enthusiasm incomparable with that of the old *régime*. There are some who think that this freedom of the teacher has had its origin in the efforts made within these later times to adjust the work of the school to its environment; to have the child study things instead of studying about things; to bring him into contact with real life instead of that which represents life. It has seemed to me that all of this is strictly parallel with that freedom of the teacher which is found in elective work as compared with work prescribed; and while in the latter case there will always be prescribed work, and in the former case we must recognize the necessity of a certain amount of rigidity, in both movements we are tending toward larger spiritual as well as intellectual liberty.

The friends in the stronghold of kindergarten work, Chicago, have been greatly exercised lest a backward step should be taken in this important field. At times it seemed to the public that the whole department of kindergarten work was to be abandoned in the City of Chicago for lack of funds. It is probable that nothing could have done more to arouse the public interest in the subject than the danger which was thought to exist. It may be said with confidence that at no previous time has the position of the kindergarten work been more strongly established; and to my mind this constitutes one of the most important facts in the educational history of the year. The place of the kindergarten has been established in the minds of the great majority of Chicago citizens, and all future budgets must contain liberal provision for this division of educational work. The Superintendent of Chicago Schools has strongly favored the placing of kindergarten work in the schools, especially those of the poorer districts. In arrangements made for next year the same number of schools as for last year has been retained; but their effectiveness has been doubled, so that twice as many children will be cared for.

Much may be expected from the campaign now being made in Michigan in behalf of the centralized rural school. Strong public sentiment has been aroused, and while hitherto the State Grange has opposed every movement in this direction, a large part of its membership has come to advocate the proposed change. The district schools will be great gainers from this movement.

An interesting development in connection with the rural schools, especially in the States of Wisconsin and Missouri, is to be noted in the introduction of instruction in agriculture. This, of course, corresponds to the introduction of industrial, or manual, training in the city schools. It is an application of the now generally recognized principle of bringing the school work into close touch with the home life of the pupil; and it may safely be predicted that no more important application of the principle has yet been discovered. The nature of the subjects thus introduced, and their pedagogical possibilities, combine to make this step one of marked significance in the history of education. The complete reports of the revision of the public-school system of Ohio have not yet been published, but from private information it may be said that a most rigid revision of the system has been adopted, and that the Ohio public-school system may henceforth take its place side by side with that of other States which have in these last years made great progress.

In addition to the significant step taken by the board of education of the city of Chicago in enlarging the curriculum of the State Normal School from two years to three, mention must also be made of the even more significant action involved in giving the superintendent an appointment for five years instead of one. This action, coupled with the general policy adopted in connection with the appointment of teachers, the large number of new buildings provided for, make the past year one of the most eventful in the history of the Chicago schools. It is generally recognized that these forward steps are in accordance with public sentiment, and are the outgrowth, in large measure, of seed sown in former years. The splendid battle fought in 1899 and 1900 by Mr. Andrews, now chancellor of the University of Nebraska, has secured results which but for this battle would have been impossible.

The Southern Education Board, which was the outcome of the Capon Springs conference held in Winston-Salem, N. C., in 1901, has already shown its strength and its power to accomplish good results. For the first time in the history of Southern education a comprehensive undertaking has been launched founded upon true principles. That educational work in the South should have to do with the education of the white man as well as the negro; that it should be worked out, for the most part, by Southern men; and that it should begin with the public school in the South, are principles which appeal directly to the common-sense of every intelligent thinker. It is confessedly true that the Southern States have not received their proper share of the great gifts for education. Twenty-five per cent. of the population of our country should receive a larger proportion than three per cent. of the general contributions to education. The Southern Board will surely have the sympathy and co-operation of every friend of education in the North, and it is a source of satisfaction that in the membership of the board we recognize the names of men who are known in the North, as well as in the South, for a true interest in sound education. The distinctive interest of this board, as has been officially announced, is in the public school, and it is particularly concerned in those forms of education "which look toward thrift, industry, and usefulness." This fact will guarantee, in part at least, the adoption of the principles of the new education. Dean Russell of Teachers College, Columbia University, in a personal letter makes this statement:

> We have been changing our conception of what education is. Formerly the school aimed very largely at *learning*. Now we are including *doing* as an element in a good education that should perhaps be as prominent as the learning. We are stimulated in this direction by the Southern Board above mentioned, for they stand very strongly for industrial education, in which a student consumes perhaps half of his time in the study of books and in reflection, and the other half in *doing* or *making* something. In my opinion, this tendency of the Southern Board and of the Southern schools is reacting powerfully upon the conception of education in the North. In fact, for several years Hampton has been a most ardent advocate of an education which gives about equal prominence to learning and doing, and in this respect has been in advance of Northern institutions. We seem to me to be gradually accepting the Hampton view in the North, altho we have been approaching the same idea from another side. The nature of the child, of course, requires a large amount of motor activity, and the demands of society also favor a kind of education which includes the execution of one's ideas. These latter two facts, therefore, as well as the influence of the Hampton and Tuskeegee schools, have led us to make a great advance in favor of more *doing*, making, executing, in the common schools.
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> As a result of this advancement, the three R's are not crowded out, but

they are growing relatively less prominent, and much greater emphasis than heretofore is being thrown upon proper materials with which to work with the hands in the schoolroom. Just as the kindergarten has given much study to the gifts,—that is, to the materials out of which the children shall make all sorts of objects,—so the elementary-school teachers are being stimulated to make an extensive study of the proper materials to be used for construction of objects in grade work. Thus we are debating about the extent to which clay, paper, pasteboard, wood, bent iron, etc., shall be used, and this will probably be a more prominent topic in the future.

A still more recent forward step in the interest of Southern education is the organization of a body called the General Education Board. The function of this board is entirely distinct from that of the Southern Education Board. The latter exists for the purpose of developing an educational sentiment. The former board has been organized to receive, hold, and dispose money for Southern education. The board has already at its command a fund of more than a million dollars. Its methods of work are those born of large experience, and its breadth of sympathy and its wisdom have already been satisfactorily administered. No stronger agencies, no agencies more greatly needed, have been established in any sphere of work, educational or industrial, in this last year, than the agencies named—the Southern Education Board and the General Education Board.

In connection with the curriculum of the secondary schools four or five tendencies may clearly be noted. Some of these are progressive; some of them may, perhaps, be regarded as characteristic of movement backward. In the latter class belongs, in the opinion of the writer, the disposition to give up provision for instruction in Greek. That there exists such a disposition cannot be denied. It seems to grow out of the desire to make way for more practical subjects; but the fact is that as many people desire Greek to-day as at any time in the past. The more practical subjects are called for by another class of students. The introduction of business and industrial courses is rapidly increasing the number of high-school students, but these new students are in addition to those who otherwise would take up high-school work. It is difficult, of course, in most communities, to make provision for a subject in which the class is ordinarily so small, but, by proper arrangement of courses, such work can be provided for in connection with the Latin at a minimum of cost. And especially in this great western country should every effort be made to conserve those studies which represent the ideal in thought and life. Principals and teachers will do well to read that most interesting paper, prepared just a year ago, on "The social need of Greek," by Mr. E. Benjamin Andrews, in which he shows so conclusively that, "while a majority of educated persons in a society may be ignorant of Greek, all cannot be; a remnant large enough to diffuse the cultivation proceeding from it must know the tongue, and that at first hand." His conclusions were, in part, as follows:

1. Social, and not merely individual, needs should be borne in mind in all large educational planning.
2. All believers in a rich and rounded social education should feel, think, speak, and act appreciatively toward Greek study.
3. Colleges and high schools with reasonably ample facilities should be encouraged to continue teaching Greek, if already doing so; if not, to begin.
4. Since the excellence of the Greek discipline is less obvious than that of most studies, teachers should see that pupils likely to profit by it in a high degree at least consider this discipline, and should advise those pupils, if they wish, and such a course is possible, to elect and pursue Greek.
5. Pupils in Greek who show special ability and taste for it should be urged to the utmost proficiency in it.

A second tendency, already noted, is the introduction of courses of instruction relating to commercial and industrial subjects. The passing year has seen great strides forward in this particular. Is this phase of secondary work moving perhaps at too rapid a rate? We must not forget that years are required to develop a new subject for practical educational results. Are we throwing aside those subjects, whose educational value has been tested beyond question, for the sake of introducing new subjects which, at all events for a long period, must prove to be of lesser value? The present writer has no desire to make objection to the introduction of new subjects, provided such introduction is accomplished cautiously and judiciously. Objection is made only to the adoption of too large a number of new subjects, for which good methods have not yet been found; to the promiscuous and miscellaneous use of anything that meets the demand of a passing craze. In any case, in meeting the demands thus made, redoubled effort must be put forth to work out the methods by which this new material may be adapted to the needs of a true education. It must follow, as a matter of course, that, if elementary instruction draws material from the industrial, political, commercial, and agricultural realms, such material must also find its place in secondary instruction. But the problems connected with its introduction are not such as to find easy solution; and it may fairly be questioned whether, up to this time, the results achieved have been in any sense satisfactory. I would not suggest that this work is not to be continued, but it must be acknowledged that the most urgent need exists for caution and for a scientific study of the questions involved.

The third tendency which, during the present year, has attracted special attention is the substitution of the certificate system for examinations in connection with college entrance. To those of us who are familiar with the working of this system in the West this proposition has in it nothing that is new. It would seem, however, that this idea, born in the West, is making its way slowly, but surely, into the eastern section of the country. The indications are quite clear that before long the certificate system in one form or another will be adopted by eastern institutions. An important step in this direction has been taken within the year by the United States Military Academy at West Point. In accordance with recent regulations made by its faculty and approved by the Secretary of War, candidates who are graduates of high schools will be accepted for membership in the first year. The regulations of the Military Academy are more liberal than they should have been made, inasmuch as graduates of three-year schools, as well as those of four-year schools, are eligible for admission. A modification of these rules will be adopted.

The success of the College Entrance Board of the Association of the Middle States and Maryland has been greater than could have been anticipated. The work of this board is an intermediate step between the eastern plan of entrance examinations set by each college for itself and the western plan of certificates. It is openly asserted by some of the strongest adherents of the College Entrance Board that its work is paving the way for the adoption of the more general certificate plan. In this connection I might quote from a letter written me by the principal of a prominent New England academy: "The most important event of the year, in secondary education, has been the expansion of the work of the College Examining Board into New England, whereby at present all the New England colleges, excepting Harvard, will receive the College Board certificates in place of their own examinations."

At several meetings of the high-school and college teachers, held last autumn, in New England, to discuss the question of joint boards of examination for entrance, such as the Middle States have adopted, this movement, tho strongly urged by Harvard University and by Yale University, was overwhelmingly defeated. On the other hand, a motion made to revise, co-ordinate, and extend the certificate system met with great approval.

It is thought by some of the ablest representatives of secondary education in New England—among others Principal Coy of the Hotchkiss School—that the experience of the past year includes as encouraging features the change on the part of the colleges to revert to the old standards of requirements which laid emphasis upon power and discipline rather than upon technical knowledge. It is believed that a beginning in this direction has already been observed, and that there exists a widespread conviction that such a course is required by sound doctrine. Certain western institutions have laid emphasis upon this point for several years. It is gratifying to note that the recognition of this principle is gaining ground in the New England colleges. The principle involved is one essential to the best interests of secondary education, and unless this principle is adopted unreservedly, secondary training will not only lose a large share of its value, but in many cases prove distinctly injurious.

The tendency toward the introduction of elective work in secondary schools has unquestionably increased during this past year. In so far as such election is virtually an arrangement of studies in groups of closely connected subjects, no exception to it may be taken; but to the proposition that the average secondary student is able, even with the parents' help, to select his subjects, and that such selection, because it is an election on his part, is preferable to the grouping of subjects which the best experience has approved, the writer desires to enter earnest protest—a protest based upon experience with students of a still maturer age. It has been my experience, after careful study of the facts as brought to light in the operation of different systems, that the average boy or girl in the Freshman or Sophomore college years exhibits an utter inability to make wise decision between various courses of instruction. The choice will be determined, in a majority of instances, by the hour of recitation, or some statement concerning the course by a fellow-student. Least of all does he have in mind the relationship of the course to the work which lies before him. I am, therefore, strongly of the opinion that, unless the choice of subject in secondary work is practically controlled by the principal, election will prove injurious rather than helpful. Much is said, in connection with the open elective system, both in secondary school and college, of the advice given by instructors and the assistance rendered by parents, but practical experience goes to show that no one is more easily influenced by whims than the parents, and that too frequently the instructor is a specialist who has little interest in or knowledge of subjects outside of those with which he himself is directly connected.

The rapidly growing demand on the part of high schools and academies for teachers of athletics, manual training, and domestic science is significant of important educational tendencies, and the demand is no less significant than the fact that at the present time teachers in these specialties are so few that the demand cannot be met. It is no longer possible for a teacher of Latin or a teacher of mathematics to perform service in these new departments. Not only is the amount of work called for too great, but the training required is of so special a character that a teacher is not fitted to perform the work who has not received special instruction. It would be well for the cause of secondary education if some of those teachers who to-day are preparing themselves for the teaching of English or Latin or mathematics were to consider whether they might not be more certain of a strong position if their special training should be made in one of these more practical subjects.

An interesting feature of the year that has closed has been the not infrequent announcement of the appointment in secondary schools of a man or woman holding the degree of doctor of philosophy. The number of high-school teachers having the full college training has been greatly increased during the year, at least in western schools. There is, to be sure, some danger that the newly fledged doctor of philosophy will have become so great a specialist as to be unfitted to teach the elementary courses required in the high school. But this is by no means so true of the doctor of philosophy trained in an American institution as of the doctor of philosophy trained in a foreign university. American universities, while laying equal stress upon research, do not fail to keep before the mind of the candidate for the doctorate the practical side of life and teaching; and it will mark a splendid point of realization in the history of secondary work when a proportion, at least, of the teachers in any secondary school shall be doctors. Side by side with this point is that very closely related demand which calls for special pedagogical training of college graduates who desire to become high-school teachers. It appears, on the one hand, that the average secondary teacher shows a remarkable lack of broad liberal knowledge. Men, as a matter of fact, go thru our American colleges without securing accurate knowledge in any subject which they study, and the close of their college course finds them in possession of no really solid mass of facts to build upon. It is maintained by some of our secondary-school leaders—for example, Dr. Julius Sachs of the Collegiate Institute in New York city—that this statement holds good of work in the classics as well as in subjects like history and modern languages. It is the testimony of the teachers in the normal schools and teachers' colleges that they are unable to take up the discussion of methods of teaching in secondary subjects because they find themselves immediately confronted with the necessity of teaching the subject-matter. This difficulty, I maintain, will never be adequately met until those who plan for themselves a career in secondary teaching have done that work in a particular department which is now ordinarily done for a doctor's degree. On the other hand, it is equally true that many teachers are found in possess the necessary scholarship who lack the knowledge of pedagogical principles that is needed for the simplest kind of instruction. The best teachers, in my experience, are often those who, at first, show no special ability for teaching, but have given themselves to the study of the principles of teaching and overcome difficulties that at first seemed insuperable. In both directions, therefore, the movement forward is encouraging.

A remarkable fact in connection with secondary schools is their phenomenal growth. I do not stop to present the statistics, for these have been indicated on more than one previous occasion. If it is true that the number of high-school students has doubled within the last decade; that the great majority of all students who enter college now come from the high schools (it is an interesting fact that even in New England, Dartmouth College should receive from high schools more than a hundred of the hundred and forty-one members of its present Junior class); that the number of high schools is increasing rapidly in every State; and that the scope of their curriculum is growing almost at a pace with the increase in numbers, the time has surely come when this factor in our educational machinery deserves greater consideration that it has hitherto received. Wedged in between the great common-school work and the higher work of colleges and universities, its prominence in the past has not been commensurate with its importance. The high-school curriculum cannot longer be regarded as one to be adjusted as a preparation for college. It may be questioned whether preparation for college is the most important subdivision of high-school work. In any case, these schools have come to occupy a unique field independent of higher institutions. In many sections of the country the work is co-ordinate with the work of the smaller colleges, and the preparatory schools connected with the smaller colleges no longer occupy their former place of importance and dignity. In fact, the high school is rapidly coming to be a rival of the smaller college itself. In some States the high school now does the work of the Freshman year, and even some of the work of the Sophomore year, this being recognized and accepted by the State universities. This tendency, while subversive of the relationships which have hitherto existed between college and preparatory school, and while injurious in the extreme to the growth and development of the smaller college, is a tendency which is invaluable and which deserves encouragement. It is a movement in the interests of economy, of better secondary education, and of better and broader higher education. The time is coming when, in every State, the leading high schools will carry the work to the end of the Sophomore year in college. Nothing can be said in justification of the policy of stopping at an earlier point than this.

If, as has been suggested, the most significant step in the field of secondary education in the Eastern States has been in successful inauguration of the College Entrance Board, it is perhaps true that the most significant step in the West has been the establishment by the North Central Association of Colleges and Secondary Schools of its Commission on Accredited Schools. This Commission was established in 1901, and made its first report at the annual meeting held in Cleveland, March 28, 1902. The commission consists of about forty members, equally divided between colleges and secondary schools. Its purpose is to effect reasonable uniformity in requirements for admission to college. If the plan recommended is put into operation, any student graduated from any school on the accredited list may without difficulty enter any college in the association.

The report defines a unit course of study as a course covering a school year with four or five periods of at least forty-five minutes each per week. It is recommended that the high-school curriculum contain not less than fifteen such units, and that the same number be accepted as fulfilling the requirements for admission to college. Of these fifteen units, there shall always be three in English and two in mathematics.

The report also presents:

1. Definitions with detailed suggestions as to the ground to be covered in each unit of the several subjects of the high-school curriculum.

2. A plan of school inspection in accordance with which the list of accredited schools may be formed.

3. Suggestions for the assignment of college credit for high-school work done in advance of the college entrance requirements.

In defining and describing unit courses of study the commission has based its recommendations on the definitions of the College Entrance Examination Board of the Middle States and Maryland, the Committee of Twelve of the American Philological Association, the Committee of Twelve of the Modern Language Association, the Committee of Seven of the American Historical Association, and the Department of Science of the National Educational Association.

I wish to join with the distinguished educator of the State of Michigan, Mr. A. S. Whitney, in the following statement:

> I believe that this movement of the North Central Association, defining units of study and the way in which these should be pursued, together with the simplification and unification of high-school inspection by the various universities and colleges, will prove the most important uplift given the high schools for many a day. It will furnish something tangible, systematic, and scientific which will form a guide for all schoolmen to follow.

I cannot conclude my statement concerning the secondary schools without mentioning the change which has been decided upon during the present year in the plans of the Chicago Manual Training School, an institution which has influenced secondary education in the West perhaps more than any other scholastic institution in the Mississippi valley. By the terms agreed upon the institution will be associated with the new School of Education in the University of Chicago. Special buildings for the prosecution of its work on a larger scale are being erected. Its work will remain a distinct and separate work, altho associated in the closest possible manner with the other secondary work of the School of Education. The trustees of the school believe that the time has come for it to enter upon a higher function than that which it has hitherto enjoyed, namely, that of training teachers for special departments of manual-training work. The educational world recognizes the valuable service which Mr. Belfield has performed in the cause of manual training, and stands ready to award him the credit which is his in view of the pioneer service he has rendered.

My last point is to call attention to the lack of interest in the work of the academy as distinguished from that of the high school. The strongest supporter of the high schools believes as cordially as ever in the necessity of the academy. The high school cannot, in the nature of the case, be a boarding school. The need of boarding schools for boys and boarding schools for girls is everywhere acknowledged, but such schools cannot be made strong and effective so long as they are dependent on present funds for their support. In the great flood of benevolence which now flows toward colleges and universities men and women are forgetting the necessity of strongly endowed academies. I cannot here enter upon an argument in behalf of the academy, but it is safe to say that, just as there is a place for the State university and for the university established by private munificence, so there is a place for the academy as well as for the high school supported by the city.

No one can doubt that the onward movement of secondary education during the past year has been as great as that of any preceding year in the decade.

Every succeeding year of the past decade has witnessed a greater interest on the part of the American people at large in the work of higher education. The year just passing has contributed as much, perhaps, as any two or three of the preceding years. This larger interest is manifested by the increased attendance at all institutions giving instruction in higher work, by the greater numbers of men and women preparing themselves for the work of instruction in higher institutions, and by the larger public generosity which is manifesting itself on every possible occasion. In each of these particulars the advance during the past year has been significant. Many of our institutions are actually overcrowded, the numbers being greater than can be adequately cared for. The number of graduate students in our universities has more than doubled in five years. It is from this source that men and women are being selected to fill the chairs of our colleges and universities. Every week, and in some weeks every day, the public press announces gifts for higher education of $50,000, $100,000, and larger sums. The Federal Government appropriates in one bill $6,500,000 for the Military Academy at West Point; in another bill, even a larger sum for the Naval Academy at Annapolis. This increase in the numbers of students and in the numbers of those preparing for professional work is not limited to any one section of the country. It reaches from the East to the far West. Nor are the gifts for education limited to the East, to the Central States, or to the West. They are being poured out lavishly in every direction, and are given alike to the smaller institutions and to the large universities.

An important feature of higher educational work in most recent times is the attention which is being given to commercial and technical instruction. The time has come when the university is compelled to adjust itself more definitely to its environment. The prevailing characteristic of the modern environment is now included under these words: commercial and technological. In spite of the fact that in Boston there exists the greatest technical school in America (the Massachusetts Institute of Technology), Harvard University is compelled, so says its president, to establish by the side of it another school of technology. This is necessary in part because students who wish to attend school at Harvard desire instruction in technology, and also because a university must serve as the true expression of the sentiment of its period. The State universities have naturally led the way in the development of technological work. Other universities must follow if they are to meet the demands of the times. It still remains to be seen whether the steps that have been taken in the direction of commercial education of a college grade will realize the hopes of those who have engaged in it. After all, it is to be remembered that the main purpose of a college course is not the information which the student gains; and yet it is to be conceded that any ordinary subject, well studied, may be used advantageously for the purposes of general education.

A strong movement seems to have set in in the direction of reducing the number of bachelor's degrees to one. Following the lead of Harvard University, several institutions, including Columbia and Cornell, have given up the degrees of bachelor of science and bachelor of philosophy, and bestow upon all students who finish the college course the degree of bachelor of arts. This policy can, at all events, be defended on the ground of simplicity. It does away with distinctions which may seem to have lost their force. The strongest argument that has been urged is that by concentrating effort in the preservation of this degree the college course will be saved, where otherwise it is in danger of being lost. It may be questioned whether this tendency will go much farther. It is surely doubtful whether it is to become universal. There are those who believe that the distinctions proposed in the different degrees are distinctions based upon real differences; that a course the larger part of which is in science may properly be called a course in science, and the degree given be a degree in science. The word "science" is one which its enthusiastic advocates should honor by use rather than dishonor by rejection.

By the side of the old college of arts, the characteristic feature of which was the study of the classics, there have grown up two sister colleges: that of science, and that of modern history and literature. Surely this fact may well be recognized; and nothing is gained by adapting the old degree to the new college, when it is so easy to employ a degree the name of which explains itself. This step can hardly be regarded as a forward step in education. The breaking down of real distinctions means backward movement, not progress.

It is generally conceded that the instruction given to students in the earlier college years has greatly improved within a short period. The custom of appointing as tutors or instructors students who had just graduated from college has almost disappeared in the better class of institutions. It is now expected that an instructor shall have had at least three years of special training in the subject in which he is appointed to give instruction. In some institutions there must be added to this at least one or two years of classroom instruction before an appointment is made. Not long since it was a common complaint that students in the Freshman year received poorer instruction than in the last years of the academy or high school; and there was ground for this complaint. It can no longer be made, however, in view of the men appointed in all our institutions to do the earlier college work. In many institutions the oldest and most experienced professors give a portion of their time to Freshman and Sophomore classes.

A recent discussion in the *Century Magazine,* on the growth of luxury in student life, seems to have shown that, in so far as there has been a growth in this particular, it has not exceeded the similar growth in ordinary American life. Student life in our colleges and universities differs very slightly from the life of young men and women in any other sphere. Nowhere is life more democratic. It is impossible in student life that the influence of wealth should be felt. In most institutions the man who earns his livelihood by waiting on table occupies as high a position in the estimation of his fellows, if he is himself worthy of it, as does the man whose father is worth millions. The passing year has furnished no evidence that our higher institutions are moving farther away from the people. The fact that entering classes have been larger than ever indicates a confidence on the part of the American public in the purposes of the college and a faith in its ability to work out these purposes.

The much-discussed subject of college athletics has received no important contributions during the year. Three things may perhaps be noted: first, the more stringent rules adopted by the western colleges for the regulation of intercollegiate athletic work, and the general opinion that western college athletics are now practically free from professionalism; second, the policy of many institutions to organize games between different divisions of the university itself, as well as to develop a special team for intercollegiate or interuniversity work; third, a growing feeling that the charging of large fees for admission to games savors too much of professionalism.

It may be feared that within a comparatively short time the rivalry between closely located institutions east and west has developed some antagonism. In not a few institutions there seems to exist a strong spirit of personal hostility toward other institutions with which competition in athletics is undertaken. Some of this same spirit has been manifested by home teams toward visiting teams, as well as by visiting teams toward the teams on whose grounds the games have been played. It is hardly necessary to say that such manifestations are a mark of deterioration and indicate that instead of making progress we are losing ground. Such an attitude of mind is hardly worthy of a true sportsman; much less does it accord with the high academic spirit. If such feelings are a necessary part of intercollegiate athletics, the sooner intercollegiate athletics are abandoned the better for all concerned. One cannot believe, however, that these manifestations are anything more than passing phases, which, in another year, will have been forgotten, and that in their place there will arise a stronger spirit of dignified and friendly rivalry, characteristic at once of the gentleman and the scholar.

The head of a prominent State university in the West has written to me that, in his opinion, one of the leading features of the educational advance of the year "is the measure of fraternal regard which has grown up between leading institutions of higher learning. If this existed before, it has certainly had a marked advance in the course of the last twelve months, and it is a very important factor in the future of American education." No one can doubt the truth of this statement, made by President Draper of the University of

Illinois. It is not too much to say that nowhere in the various activities of the world has fraternal regard shown itself more distinctly, nowhere has the spirit of co-operation been manifested more definitely, than among the higher institutions of learning. A conspicuous example of the good feeling existing between institutions is the interchange of professors which has grown up during these last years, the trustees of one university consenting to the transfer, for a certain period, of a particular person to another institution. A most striking case of this kind is the arrangement by which the corporation of Harvard University has recently given leave of absence to a professor in its law school, with the understanding that he shall accept for that period the deanship of the new law school of the University of Chicago, and undertake to establish, in connection with the latter university, a school which shall, at all events in some measure, partake of the strength and characteristics of the Harvard school. What greater evidence of good will and mutual interest could be presented? This spirit of fraternal regard has been shown most tangibly in the four great academic festivals of the year, held in connection with the celebration of the Yale bicentennial, the celebration of the twenty-fifth anniversary of the Johns Hopkins University, the inauguration of President Butler at Columbia, and the centennial celebration of the Military Academy at West Point. At each of these celebrations representatives of many institutions were assembled. It seemed to be the prevailing opinion that good relationships between institutions of higher learning are not only conserved, but greatly encouraged, by such gatherings. In any case, it is evident that, so far as the faculties are concerned, old hostilities have disappeared. In spite of the sharp competition which necessarily exists, feelings of the most friendly character are entertained, officially and unofficially, by one institution for another. It is evident to all that such gatherings are the means by which higher education makes a most forceful impression upon the consciousness of the people of the United States. The country knows no kind of celebration more brilliant or more effective than that which is connected with the two-hundredth anniversary of a university, or even with the twenty-fifth anniversary of an institution of higher learning; and the time has come when the inauguration of the president of a large university is of greater importance and attracts more general interest than the inauguration of the governor of a commonwealth.

The president of Harvard University has called my attention to a change which, as he puts it,

> has been strikingly illustrated during the year now almost finished in the altered taste of benefactors in regard to objects of endowments. The older endowments of Harvard College were for mathematics, divinity, Greek, Latin, moral philosophy, and belles-lettres. The subjects which most easily enlist the interest of benefactors now seem to be medicine, architecture, history, economics, and government. Intelligent benefactors are generally moved by some far-reaching hope for good. This change indicates that the hopes of our generation concerning the future progress of civilized man are somewhat different from those during the earlier part of the eighteenth and nineteenth centuries.

The experience of Harvard is the experience of many universities, and no year has furnished more evidence of this change in the attitude of benefactors than the year just closed.

In certain quarters much enthusiasm has been exhibited over the proposition to limit admission to professional schools to those who have already taken the bachelor's degree. The most conspicuous examples of this policy are the Johns Hopkins School of Medicine and the Harvard Law School. During the year the Columbia Law School and the Harvard School of Medicine have adopted the policy. Within two weeks the President of Yale University has expressed in no uncertain way his opinion that "this movement is a movement in the wrong direction." In this opinion I am compelled to join; and, if all the facts were announced, I am persuaded in my own mind that a large proportion of the membership of the very faculties thru which this change has been brought about would agree substantially with Mr. Hadley's point of view. Men who are to do work that shall count in their professions must find themselves in possession of the technique of the profession before they have reached an age when such technique is impossible. Besides this, the earlier courses in law, in medicine, in divinity, are as truly disciplinary and as productive of culture as any subjects that are offered in the college curriculum. Many men who are preparing for a profession are distinctly injured by the last year or two in college, instead of being benefited thereby. There are some men for whom the college atmosphere, as distinguished from that of the professional school, is not a wholesome one. Men who in college idle away their time in many cases find the more strenuous life of professional training exactly suited to their needs. The value of this movement, both from the point of view of the college and from that of the professional school, may, therefore, be doubted. In any case, a middle ground, requiring two or three years of college work, is a superior policy for the next decade.

The feeling grows stronger in every quarter that the college course, at least for those who are to engage in a profession, must be shortened. It does not seem that the Harvard plan of three years meets with general favor, even in Cambridge, altho, according to the official report, 40 per cent. of the men now graduating from Harvard College finish their academic work within three years. It would seem to be a better plan to allow those who do not contemplate a professional course of study to take the full four years of work in college, and to arrange for the other class to count their early professional work as a part of the work accepted for the bachelor's degree. A great forward step in the direction of this policy has been taken in the recent action of Yale. This policy has been adopted as the basis for the organization of the schools of medicine and law in the University of Chicago. It is the most practicable solution of the problem which confronts us, and bids fair to be the commonly accepted solution within a short time.

Considerable comment has been made, altho in a quiet and cautious way, upon the apparent scarcity of women possessed of the proper qualifications and training for the highest positions in college work. A prominent educator (I think it best to withhold mention of his name) has gone so far as to say that this scarcity is greater to-day than it was five years ago. Several suggestions have been made in explanation of the fact. For myself, I am not convinced that the proposition itself is true. The women now being graduated, with the doctor's degree, from our strongest institutions, are, in almost every particular, as able and as strong as the men. If opportunity were offered, these women would show that they possess the qualifications demanded. The fact is that to women there do not come the opportunities to show their strength which come to men. In colleges and universities for men only, women may not find a place upon the faculty. In a certain great State university, in which there are as many women students as men students, women are represented in the faculty by a single individual, and she has been appointed within the last three years. In some of the women's colleges women find a place. In others, second-rate and third-rate men are preferred to women of first-rate ability. The number of faculties of colleges and universities on which women have appointments in any number is very small, and even in certain institutions in which women have gained secure footing there is often greater or less distress among the men of the various departments if even one or two women are appointed. And yet, is it possible that the heads of our State institutions—institutions which are established by the people and conducted with the people's money; institutions which are professedly democratic beyond all others—deliberately refuse to recommend the appointment of women even when they have attained equal rank with men in scholarship and efficiency? So far as I can ascertain, during the past year the appointments of women, east and west, even in coeducational institutions, have numbered very few; fewer, perhaps, than ever before. Is this progress? Or is it rather a concession to prejudices which, instead of growing weaker, are growing stronger? I venture to ask the Regents of our State universities and the trustees of our coeducational institutions to consider this question; and I think it not inappropriate to suggest for the consideration of the trustees of certain women's colleges the question whether, in this matter, they have given to women the full opportunity which they deserve.

A burning question during this past year has been that which relates to the tenure of office of professors. That words have been spoken on both sides of the question is evident from the following statements, taken from personal letters addressed to me by two eminent presidents of universities. One of these gentlemen writes as follows:

> Another tendency characteristic of the passing year, and tending toward reform, is the growing feeling that the professor's chair is sacred only as its incumbent makes it so, and that it is the right and duty of a university not to retain men deficient in character or ability as judged by the reasonable standards of the institution itself.

Another equally prominent president writes from the other point of view:

> I can think of nothing so important to be touched upon in such a review as that which you propose as the danger of professorial degradation. The danger is mainly twofold: one arising from the extremely low salaries many institutions of considerable character are paying to titular professors who, in the nature of the case, must be most ill-furnished for the work; and, secondly, from the tendency in certain quarters to snub professors, to treat them as underlings, and to constitute the head of the university a mere business boss. It is not at all the issue of academic freedom in the old sense, but rather one of personal freedom, manliness, and self-respect on the part of professors. I deem this a real danger vastly greater than any in which academic freedom, in the old sense, has ever stood in this country.

Here, then, is the issue; and it is an issue squarely drawn. Has progress been made in this respect, or has ground been lost in these last months? I have no hesitation in finding an answer to this question. Every month of the last twelve months has added to the security and permanence of the professor in the prosecution of his work. Every month has added to his dignity and to the importance which attaches to his words. Every month has made it clearer that public sentiment is on the side of the professor in any contest entered into with the institution of which he is a member. Within five years the sentiment has become almost universal that, once a man is appointed to do work in a university, the university is responsible for the appointment, but not for the views which the man later may propound. Gradually, but surely, even the common people are coming to perceive the difference between the university and the individual professors who form its staff. The time has not yet come, to be sure, when the people make distinctions of this same kind between the president of an institution and the institution itself. It is still wrongly understood that the words of a president must be words carrying with them the force and influence and authority of the university as a whole. Ten years from now, in the West and Northwest, men will be able to make this additional distinction. But great has been the progress which has thus far obtained in the attitude of the public toward the individual professor. It is asked, however, and not without reason: "Is there no limit to the indiscretion which a professor may commit in language or in deed? Are there no circumstances under which, by common consent of all concerned, the resignation of a professor may wisely and justly be demanded?" I take the liberty of repeating on this occasion words which I have used within the year in another address:

> The greatest single element necessary for the cultivation of the academic spirit is the feeling of security from interference. It is only those who have this feeling that are able to do work which in the highest sense will be beneficial to humanity. Freedom of expression must be given the members of a university faculty, even tho it be abused; for, as has been said, the abuse of it is not so great an evil as the restriction of such liberty. But, it may be asked, in what way may the professor abuse his privilege of freedom of expression? or, to put the question more largely, in what way does a professor bring reproach and injury to himself and to his institution? I answer: A professor is guilty of an abuse of his privilege who promulgates as truth ideas or opinions which have not been tested scientifically by his colleagues in the same department of research or investigation. A professor has no right to proclaim to the public as truth discovered that which is yet unsettled and uncertain. A professor abuses his privilege

who takes advantage of a classroom exercise to propagate the partisan views of one or another of the political parties. The university is no place for partisanship. From the teacher's desk should emanate the discussion of principles, the judicial statements of arguments from various points of view, and not the one-sided representations of a partisan character. A professor abuses his privilege who in any way seeks to influence his pupils or the public by sensational methods. A professor abuses his privilege of expression of opinion when, altho a student and perhaps an authority in one department or group of departments, he undertakes to speak authoritatively on subjects which have no relationship to the department in which he was appointed to give instruction. A professor abuses his privilege in many cases when, altho shut off in large measure from the world, and engaged within a narrow field of investigation, he undertakes to instruct his colleagues or the public concerning matters in the world at large in connection with which he has had little or no experience. A professor abuses his privilege of freedom of expression of opinion when he fails to exercise that quality—which, it must be confessed, in some cases the professor lacks—ordinarily called common-sense. A professor ought not to make such an exhibition of his weakness, or to make an exhibition of his weakness so many times that the attention of the public at large is called to the fact. In this respect he has no larger liberty than other men.

But may a professor do all of these things and yet remain an officer in the university? Yes. The professor in most cases is only an ordinary man. Perfection is not to be expected of him. Like men in other professions, professors have their weaknesses. But will a professor under any circumstances be asked to withdraw from the university? Yes. His resignation will be demanded, and will be accepted, when, in the opinion of those in authority, he has been guilty of immorality, or when for any reason he has proved himself to be incompetent to perform the service called for. The public should be on its guard in two particulars: the utterance of a professor, however wise or foolish, is not the utterance of the university. No individual, no group of individuals, can speak for the university. A statement, by whomsoever made, is the statement of an individual.

President Jordan of the Leland Stanford Junior University has suggested to me that among the various important movements of the year is the disposition of small colleges to become junior colleges, turning their graduates over to the universities at the beginning of the junior year. I may not dwell upon this opinion longer than to say that, within my own observation, many facts pointing in this direction have occurred. When some of our smaller colleges shall have come to appreciate the fact that their position in the educational world will, indeed, become a higher one if they will limit their work to that which they can do with thoroness and satisfaction to all concerned, and will encourage their students at the end of the sophomore year to take advantage of the larger foundations to be found in the State universities and in the great cities of the country, a great step forward will have been taken. The adoption of this policy by even a few will inaugurate a movement the ultimate results of which will be of incalculable value to the cause of higher education.

No fact has been commented on more widely than that which has been thoroly illustrated by the change of presidency at Princeton; namely, the transfer of the control of education from the clergy to the laity. In the Association of American Universities only one institution is under the administration of a clergyman; that one is the Roman Catholic University at Washington, and is essentially a theological institution. Special attention was drawn to this fact in the address of Mr. Eliot at the Columbia celebration. The significance of it is self-evident, and, when coupled with the fact that so small a number of college graduates in our universities now plan for the profession of preaching the significance grows even more startling. Moreover, from no quarter, not even from the clergy, do we find criticism of this policy. It seems to meet with general favor and approval. Surely, if anywhere, the old régime would have continued in Princeton; but even at Princeton the new policy has been adopted. The fact is itself a commentary upon the function and place of higher education in the public mind. It is an epitome of the great change which has taken place within so short a time. One may not be too sure that this change is altogether good. Time alone will determine whether something is not lost in this transfer. It does not mean that our institutions of learning are any less religious either in fact or in theory, for it may be confidently maintained that never, in the history of higher education, has the religious spirit prevailed more widely, or extended more deeply, than at present. It does not mean that questions of ethics or of philosophy occupy a less prominent place than in former years. It does not mean that biblical instruction is now taking a secondary place in comparison with that which it has hitherto occupied; for here again, as everyone knows, never before in the history of college education have biblical studies occupied the place in academic instruction which they hold to-day. But if it does not mean these things, what does it mean? Simply that the work of education is itself a profession, separate and distinct from preaching. Just as, in olden time, when specialism introduced itself, he who had formerly been sage and soothsayer and priest was compelled to specialize, and three different classes of teachers, under different names, arose to do the work, namely, the sage, the prophet, and the priest; so to-day the training of the preacher is not the training which ordinarily is best adapted to prepare a man for the work of a university presidency. In truth, the position of the university president has become a unique position, a profession by itself; one the demands on which are greater perhaps than those made upon any other profession. This new phase is a growth of the last two decades. What its future development will be no one can prophesy; but it stands out to-day as distinct from the office of the clergy, on the one hand, as from that of the specialist in any department of science, on the other. The college president must be a specialist, and he must also be a generalist. Scholarship is expected of him; at the same time, thoro business training. The capacity for desk work is demanded, and, besides, skill in public speaking; and, above all, if not knowledge of all things, at least sympathy with all knowledge. The past year has made large contribution to the further differentiation of this new character in modern life.

The two greatest single events in the history of higher education during the past year—indeed, during the past ten years—are those connected with Mr. Rhodes's proposition for American and colonial scholarships at Oxford, and the foundation of the Carnegie Institution in Washington for research work. It is intensely interesting to note that these two great events were announced within ninety days of each other, and that the one is distinctly for educational purposes, the other for purposes of research; the two thus covering the entire function of the modern university. It is interesting to note further that in one case the provision is made by a foreigner, altho intended to benefit American youth, and that in the other case the provision is also made by a man of foreign birth, its purpose being to elevate and dignify and increase the possibilities of research work in the land of his adoption. The members of the National Educational Council cannot fail to have noted that the action of Mr. Carnegie was the direct result of a report made by a committee of this Council a year ago, and that the Carnegie Institution has been established on precisely the lines laid down in the report of this Council's committee.

The president of one of our oldest institutions writes to me privately this statement concerning these great gifts: "The relation of the great gifts of the past year to the future, like those of Carnegie or Rhodes, is so problematical that I do not, so early as this, venture to estimate their importance."

It is plainly possible that great injury to the cause of education may result from gifts of this magnitude, unless they are properly administered. On the basis of important testimony, coming to me directly from leaders of education in Scotland, I am convinced that Mr. Carnegie's gift to Scotch universities up to the present time has resulted in far greater injury than good to those institutions and to the cause of education in that country. One of the most dangerous weapons in the world is a large sum of money, badly administered in a good cause.

It is, therefore, as has been suggested, too early to hazard an opinion on the good or evil results of these gifts. That both of them have great possibilities of good no one can deny. The Carnegie fund has been established for research and ought to contribute largely to institutional co-operation; but if, instead of encouraging the work of research and investigation as already established in our institutions of learning, it endeavors to detach such work from those institutions and to gather to itself the responsibility and the credit for such work; if, instead of strengthening the work where it already exists, it undertakes to establish new foundations, independent of these institutions, in order that its own work may be more tangible, it will prove to be the greatest curse of higher education in this country instead of a blessing. If the Rhodes scholarships are to be employed to detach from the American environment one hundred or more young men of special ability each year and transport them to foreign soil in order to imbue them with foreign ideas at an age when they are peculiarly impressionable; if the purpose of this foundation is to draw all men to a recognition of the doctrine of imperialism as it is embodied in the British Empire, the execution of this trust may prove a curse instead of a blessing to those who avail themselves of its privileges.

But there is no good reason to suppose that these injurious results will follow. The men to whose trust has been committed the Carnegie Institution are men of broad sympathies and of large ideas. Altho, thus far, no sufficient indication has been given of the policy of the Institution to lead us to suppose that the original proposition of institutional co-operation has a large place in the minds of those immediately in control, time will convince all who have relationship to this institution that only such a policy will be productive of the best results. And, surely, in the disposition of the Rhodes scholarship there will be employed that same large wisdom which has thus far characterized British statesmanship and diplomacy. The form of the gift is sufficiently indefinite to make it possible to modify the original proposition and to permit these scholarships to be for graduate work rather than for undergraduate work. In any case, regulations may easily be established which will make profitable this temporary sojourn of American youth in a country so closely connected with our history and our sympathies. England and America stand together to-day, and in the future will continue to stand together, in all great international and humanitarian movements; and this additional bond of union may be not the least important one in bringing about great international reforms, in which England and the United States shall take the lead.

We who are workers in the educational field to-day live in a period of great and wide-reaching opportunity. Our predecessors knew nothing of the advantages which we enjoy. The outlook which presents itself to us would have been for them an utterly impossible one. Greater wisdom is needed to-day, in view of these new and splendid opportunities. The work of the teacher grows more and more secure, and is more and more highly esteemed by the people at large. It is the highest career man or woman is permitted to follow. The greatest of all men was a teacher, a man who employed the methods of a teacher, and was recognized as such by all who met Him. In view of the achievements of the past, and the possibilities and opportunities of the future, let us "gird our loins," put on new strength, and take up the burden of life for another year with new courage and with a never-failing faith in the dignity and value of the work which God has given us to do.

To the more than one hundred leaders in education in the elementary, the secondary, and the higher fields of work who, by their suggestions, have aided me in the preparation of this paper, I wish to make acknowledgment of my indebtedness.

I have intentionally omitted the consideration of the educational literature of the year, as well as the trend of educational matters across the ocean. It was necessary to place some kind of limitation on the scope of the paper.

William R. Harper

University of Chicago

IV

COLLEGE ENTRANCE EXAMINATION BOARD

SECOND ANNUAL REPORT OF THE SECRETARY

THE EXAMINATIONS OF 1902

Organization

At the second annual meeting of the College Entrance Examination Board, held at Columbia University, New York, on November 9, 1901, Nicholas Murray Butler was elected chairman to succeed President Low, who retired from the board by virtue of his resignation as president of Columbia University; President Thomas of Bryn Mawr College was re-elected vice chairman; Joseph C. Hendrix of New York was re-elected treasurer; and Thomas Scott Fiske of Columbia University was elected secretary.

At the same meeting the following resolutions were adopted:

Resolved, That the College Entrance Examination Board of the Middle States and Maryland hereby instruct the chairman and the secretary, acting on behalf of the board, to tender a formal invitation to the colleges and scientific schools of the New England States to send representatives to this board on the same terms and conditions as are established by the constitution of the board for colleges and scientific schools in the Middle States and Maryland.

Resolved, That upon the acceptance of this invitation by one or more of the institutions of the New England States the name of the board be altered by dropping the designation "of the Middle States and Maryland."

Resolved, That the Association of Colleges and Preparatory Schools of the Middle States and Maryland be requested to extend a formal invitation to the New England Association of Colleges and Preparatory Schools to choose each year five members of the College Entrance Examination Board representing secondary-school teachers of the New England States, so soon as not fewer than five New England colleges and scientific schools have accepted the invitation to become members of this board.

Resolved, That the chairman and secretary be authorized to make the necessary verbal changes in the constitution and published documents of this board, and to make such constitution and documents conform to the purposes of the above resolutions in case the invitations authorized thereby be accepted by one or more of the institutions of the New England States or by the New England Association of Colleges and Preparatory Schools.

As a result of the invitations issued under these resolutions three New England institutions, the Massachusetts Institute of Technology, Mount Holyoke College, and Wellesley College, became members of the board. Most of the other New England institutions to which invitations were addressed replied that they were desirous of awaiting the outcome of certain conferences which had been proposed and which, it was thought, might lead to joint action on the part of those institutions. The membership of the board was enlarged further by the accession of the four following institutions in the Middle States: Bucknell University, Colgate University, Syracuse University, and the University of Rochester.

At the annual meeting of the Association of Colleges and Preparatory Schools of the Middle States and Maryland held at Syracuse University, Syracuse, November 30, 1901, the following persons were chosen as representatives of the secondary schools upon the board for the year ending November 30, 1902: Julius Sachs of New York; Wilson Farrand of Newark, N. J.; Simon J. McPherson of Lawrenceville, N. J.; James L. Patterson of Philadelphia, Pa; and James G. Croswell of New York.

Publications

In addition to the publications mentioned in the First Annual Report of the Secretary the following publications have been issued to date:

EXAMINATION QUESTIONS OF 1901, . . . JULY 24, 1901

This volume was published for the board by Ginn & Company of Boston, and copies may be obtained thru any bookseller for sixty cents each. It contains all the question papers of 1901, together with the names of the examiners who framed the question papers in each subject and of the readers who read the answer-books in each subject. It contains also a brief description of the organization and plan of the board.

FIRST ANNUAL REPORT OF THE SECRETARY, . OCTOBER 1, 1901

This report published in the EDUCATIONAL REVIEW for October, 1901, was also printed separately for free distribution among those interested in the work of the board. It contains a complete report of the operations of the board during the first year of its existence and is accompanied by statistical tables giving in detail the more important results of the examinations.

DOCUMENT NO. 7, ... DECEMBER 10, 1901

List of subjects in which examinations are offered, time-schedule of the examinations to be held June 16–21, 1902, and instructions to candidates proposing to enter the examinations.

DOCUMENT NO. 8, ... JANUARY 10, 1902

The constitution of the board, the list of subjects in which examinations are offered, detailed definitions of the requirements in each subject, the names of the examiners appointed to frame the questions for use at the examinations of 1902, the time-schedule of the examinations to be held June 16–21, 1902, and instructions to candidates proposing to enter the examinations. A copy of this document will be sent to any address upon receipt of ten cents in postage stamps.

DOCUMENT NO. 9, ... MAY 1, 1902

Instructions to supervisors in charge of examinations.

DOCUMENT NO. 10, ... MAY 26, 1902

List of places at which arrangements were made for the examinations held June 16–21, 1902.

Administration

The work of the secretary's office during the past year divided itself naturally into three parts: (1) internal correspondence, consisting of the correspondence with examiners in reference to the framing of the questions to be used and with supervisors in regard to the arrangements for the conduct of the examinations to be held at various points; (2) external correspondence, consisting of the correspondence with candidates proposing to enter the examinations and their teachers in regard to the requirements and other details upon which information was desired; (3) the preparation of the various blank forms required in the administration of the examinations and of the several publications already enumerated. The secretary was authorized to emphasize the impersonal character of the examinations by the assignment of examination numbers to the candidates. The introduction of this system required the use of a number of new blanks and some modifications in the style of answer-book. A new form of application for examination was devised with a detachable second sheet to be transmitted by the secretary to the college concerned. A form of notification for transmission to supervisors, a teacher's certificate for use in connection with laboratory note-books, and other blanks were also prepared.

The institutions interested in the work of the board continued to give it their hearty support. Cornell University, Vassar College, and the Woman's College of Baltimore discontinued their separate examinations hitherto held in June, and candidates wishing to be examined for admission to these institutions were requested to take the examinations of the board. The number of institutions doing away altogether with separate examinations in June thus becomes six; Barnard College, Columbia College, and New York University having taken similar action the preceding year. Other institutions, among which were the Massachusetts Institute of Technology, Mount Holyoke College, and Wellesley College, gave notice to their correspondents that they would no longer hold separate examinations at a distance.

The work of the board has continued to gain favor with institutions which have not as yet actively identified themselves with it. It will be remembered by those who read the First Annual Report of the Secretary that Bowdoin College was one of the very few institutions which a year ago declined to recognize the examinations as a satisfactory substitute for their own separate examinations. It was a source of gratification to the secretary to receive under date of December 7, 1901, a letter from President Hyde of Bowdoin College of which the following is an extract:

> Our Faculty have voted to accept your examinations as the equivalent of our own in corresponding subjects. We have voted, however, in view of the fact that our examinations are already announced in our catalog for the present year, and that the course things may take in New England is still uncertain, to postpone for a year a definite answer to your kind invitation to join the College Entrance Examination Board.

The action of Bowdoin College puts Harvard in the position of being, so far as the secretary knows, the only college or university in the United States which declines to accept the examinations. In this connection, however, it will perhaps be of interest to describe the conditions under which the examinations held by the board have been accepted by Yale University. While the Sheffield Scientific School has this year recognized the examinations of the board as a perfectly satisfactory substitute for its own separate examinations and has accepted the results of the examinations without any question whatsoever, the faculty of Yale College (the academic department of Yale University) has accepted the results of the board's examinations only after the answer-books of the candidates concerned have been re-read and re-rated by representatives of the college faculty. It is obvious, however, that the careful plan of work adopted by the board makes it impossible that any rating assigned by the board to an answer-book should be materially altered when the book is re-read at Yale College.

The College of Physicians and Surgeons, (the medical department of Columbia University), should also be mentioned. This institution, which last year had a first-year class of 270 students, has determined in future to require all intending students who are not college graduates to qualify for admission by means of the examinations held by the board.

It may be of interest to mention here also that during the past year arrangements were made whereby the Pulitzer competitive scholarships for graduates of the public high schools of New York are to be awarded upon the basis of the board's examinations. At the recent examinations ten prize scholarships, each tenable for four years and of the annual value of $250, were awarded to young men desirous of obtaining a college education. Ten such scholarships are to be awarded every year. The advantages which are offered by the examinations of the board for administering the award of competitive scholarships will probably secure general recognition within a very short period.

In making arrangements for the proper supervision of the examinations, which was occasionally attended with some difficulty, material assistance was received by the board from a large number of colleges and universities, including several institutions which have not yet become members of the board. Generous offers of assistance, including not only accommodations for the examinations but also their supervision, were received from Brown University, the Ohio State University, the University of Chicago, the Tulane University of Louisiana, and the University of California, as well as from almost every institution belonging to the board.

The administration of the examinations was embarrassed to some extent thru the fact that a considerable number of candidates neglected to file their applications for examination until after the date prescribed by the rules. It happened, fortunately, that sufficient provision had been made in advance for every emergency thus created, but in a number of instances the escape from serious confusion was a narrow one. In the opinion of the secretary it would be wise in the future for the board to receive delinquent applications, if at all, only upon the payment by the candidate concerned of double the usual examination fee.

New Examination Subjects

By vote of the board at the meeting of November 9, 1901, botany, geography, Spanish, and drawing were added to the list of subjects in which examinations are held, in order to meet the needs of the colleges accepting the examinations. The definition of the requirement in botany is based on the report of the Committee on Botany of the Science Department of the National Educational Association, as modified by a committee of the Society for Plant Morphology and Physiology. The definition of the requirement in geography is based on the report of the Committee on Physical Geography of the Science Department of the National Educational Association. The definition of the requirement in Spanish was drawn up under the direction of the executive committee of the board to follow the form and spirit of the recommendations made for French and German by the Committee of Twelve of the Modern Language Association. The definition of the requirement in drawing is based upon the entrance requirements in this subject as contained in the catalogs of colleges and universities represented in the College Entrance Examination Board, and to some extent upon the Harvard outline of requirements in drawing. It was suggested that the board also add zoölogy to the list of subjects in which it holds examinations, but it was thought wise to postpone action in this respect, as there was in existence no generally accepted requirement in zoölogy.

Work of the Examiners

The examiners for 1902 began the work of framing the question papers in the first week of January. The full list of examiners for 1902 was as follows:

BOTANY

William Francis Ganong.................. Professor of Botany, Smith College
University of New Brunswick, A. B., 1884, and A. M., 1886; Harvard University, A. B., 1887; University of Munich, Ph. D., 1894.

Byron David Halsted.....Professor of Botany and Horticulture, Rutgers College
Michigan State College, B. S., 1871, and M. S., 1874; Harvard University, Sc. D., 1874.

Edward Lyman Morris, Head of the Department of Biology, Washington High Schools, Washington, D. C.
Amherst College, A. B., 1891, and A. M., 1895.

CHEMISTRY

Henry Paul Talbot, Professor of Analytical Chemistry, Massachusetts Institute of Technology
Massachusetts Institute of Technology, A. B., 1885; Leipsic University, Ph. D., 1890.

Leverett Mears.............. ....Professor of Chemistry, Williams College
Amherst College, A. B., 1874; Göttingen, Ph. D., 1876; Williams College, M. A., 1888.

Albert C. Hale, Teacher in the Boys' High School, Brooklyn, N. Y.
University of Rochester, A. M., 1872; University of Heidelberg, Ph. D., 1880.

DRAWING

Alfred Edgar Burton, Professor of Topographical Engineering, Massachusetts Institute of Technology
Bowdoin College, S. B., 1878, and C. E., 1881.

Alfred Dwight Foster Hamlin, Adjunct Professor of Architecture, Columbia University
Amherst College, A. B., 1875, and A. M., 1885.

Manton Elwell Merchant, Teacher in Erasmus Hall High School, Brooklyn, N. Y.

ENGLISH

Francis Hovey Stoddard............Professor of English, New York University
Amherst College, A. B., 1869, and A. M., 1886.

Edward Everett Hale, Jr. ......Professor of Rhetoric and Logic, Union College
Harvard University, A. B., 1883; University of Halle, Ph. D., 1892.

Helen Josephine Robins.....Teacher in Miss Baldwin's School, Bryn Mawr, Pa.
Byrn Mawr College, A. B., 1892.

FRENCH

Edwin Seelye Lewis.....Professor of Romance Languages, Princeton University
Wabash College, A. B., 1888; John Hopkins University, Ph. D., 1892.

Jean Charlemagne Bracq........Professor of Modern Languages, Vassar College
McGill University, A. B., 1881.

Isidore Henry Bowles Spiers, Teacher in William Penn Charter School, Philadelphia, Pa.
Oxford University, A. B., 1878, and A. M., 1880.

GEOGRAPHY

Albert Perry Brigham, Professor of Geology and Natural History, Colgate University
Colgate University, A. B., 1879, and A. M., 1882; Harvard University, A. M., 1892.

William North Rice................Professor of Geology, Wesleyan University
Wesleyan University, A. B., 1865; Yale University, Ph. D., 1867; Syracuse University, LL. D., 1886.

Frank Carney..........Vice Principal of the Ithaca High School, Ithaca, N. Y.
Cornell University, A. B., 1902.

GERMAN

Marion Dexter Learned........Professor of German, University of Pennsylvania
Dickinson College, A. B., 1880, and A. M., 1883; Johns Hopkins University, Ph. D., 1887.

Hans Froelicher...... ....Professor of German, Woman's College of Baltimore
University of Zürich, Ph. D., 1888.

Thomas Bertrand Bronson, Teacher in Lawrenceville School, Lawrenceville, N. J.
University of Michigan, A. B., 1881, and A. M., 1886.

GREEK

Herbert Weir Smyth..................Professor of Greek, Harvard University
Swarthmore College, A. B., 1876; Harvard University, A. B., 1878; University of Göttingen, Ph. D., 1884.

Angie Clara Chapin, Professor of Greek Language and Literature, Wellesley College
University of Michigan, B. A., 1875, and M. A., 1895.

David Andrew Kennedy, Principal of the Dearborn-Morgan School and of the Carteret Academy, Orange, N. J.
Yale University, A. B., 1874, and Ph. D., 1878.

HISTORY

Lucy Maynard Salmon.....................Professor of History, Vassar College
University of Michigan, A. B., 1876, and A. M., 1883.

William Isaac Hull...................Professor of History, Swarthmore College
Johns Hopkins University, A. B., 1889, and Ph. D., 1892.

Henry Pitt Warren........Head Master of the Albany Academy, Albany, N. Y.
Yale University, A. B., 1870.

LATIN

Charles Edwin Bennett..................Professor of Latin, Cornell University
Brown University, A. B., 1878.

John Howell Westcott........Musgrave Professor of Latin, Princeton University
Princeton University, A. B., 1877, A. M., 1880, and Ph. D., 1887.

William Henry Klapp, Headmaster of the Episcopal Academy, Philadelphia, Pa.
Harvard University, A. B., 1871; University of Pennsylvania, M. D., 1876.

MATHEMATICS

Charlotte Angas Scott............Professor of Mathematics, Bryn Mawr College
University of London, B. Sc., 1882, and D. Sc., 1885.

Frank Morley.............Professor of Mathematics, Johns Hopkins University
University of Cambridge, B. A., 1883, M. A., 1886, and Sc. D., 1897.

Randall Spaulding,....Principal of the Montclair High School, Montclair, N. J.
Yale University, B. A., 1870.

PHYSICS

Edward Leamington Nichols.......... Professor of Physics, Cornell University
Cornell University, B. S., 1875; University of Göttingen, Ph. D., 1879.

William Suddards Franklin............ Professor of Physics, Lehigh University
University of Kansas, B. S., 1887, and M. S., 1888.

Frank Rollins............Teacher in the Morris High School, New York, N. Y.
Wesleyan University, A. B., 1889.

SPANISH

Hugo Albert Rennert, Professor of Romanic Languages and Literatures, University of Pennsylvania.
University of Pennsylvania, B. Sc., 1876, LL. B., 1881, and M. A., 1890; University of Freiburg i. B., Ph. D., 1892.

Fonger DeHaan,............Associate Professor of Spanish, Bryn Mawr College
Johns Hopkins University, Ph. D., 1895.

Federico Edelmann, Teacher in the DeWitt Clinton High School, New York, N. Y.

The examiners were furnished by the secretary with copies of the criticisms and suggestions that had been received relative to the questions set the preceding year, and they derived much valuable assistance from them. The board is extremely desirous that similar criticisms and suggestions may be received after the examinations of each year.

The committee on revision, consisting of the thirteen chief examiners and of the five representatives of secondary schools upon the board, held a two-days' meeting on March 7 and 8. The proposed question papers were discussed at length and subjected to a thoro analysis. The time and care spent in the preparation and revision of the examination questions, together with the expert knowledge of which they had the benefit, are probably without a parallel in the history of the American colleges. Arrangements were made, as in the preceding year, for the publication of the questions in book form by Ginn & Co. of Boston.

The Examinations

The examinations were held during the week beginning Monday, June 16, in accordance with the time-schedule printed on pages 44-45 of Document No. 8. The examinations were conducted in strict conformity with the rules prescribed in Document No. 8. The question papers, answer-books, instructions to supervisors and other necessary material were forwarded by express and safely arrived at every point in ample time before the examinations. Letters of transmission containing the slips bearing the examination numbers were sent to the supervisors by mail. Unfortunately, owing to a failure on the part of one or two supervisors to carry out fully the directions in regard to the return of the answer-books, or possibly in one case thru an unavoidable accident, two candidates suffered thru the loss of one or more answer-books.

The total number of candidates examined was 1362, an increase of about 40 per cent. over the corresponding number (973) of the preceding year. Of the 973 candidates examined in 1901, 616 were examined in New York. The number of such candidates this year was 650. Thus the number of candidates examined by the board outside of New York has increased in one year from 357 to 712, or almost exactly one hundred per cent.

Statistical Tables

The examinations were held at 130 points, 125 in the United States, 1 in Canada, and 4 in Europe, as shown in the following table:

TABLE I

Places at which Examinations were Held June 16–21, 1902, and the Number of Candidates for Examination at each Place

North Atlantic Division		
Maine:		
Bangor	2	
Bar Harbor	2	
Portland	11	
		— 15
New Hampshire:		
Concord	12	
Exeter	12	
		— 24
Vermont:		
Saxton's River		0
Massachusetts:		
Adams	6	
Andover	3	
Boston	29	
Fall River	0	
Springfield	12	
Worcester	0	
		— 50

Rhode Island:		
Providence		0
Connecticut:		
Hartford	6	
Lakeville	14	
New Haven	11	
New London	7	
Norwalk	14	
Pomfret Centre	0	
Salisbury	3	
Southington	0	
Washington	3	
	—	58
New York:		
Albany	6	
Binghamton	2	
Brooklyn:		
Adelphi College	45	
Packer Collegiate Institute	17	
Buffalo	5	
Elmira	1	
Geneva	1	
Ithaca	36	
Lowville	1	
New Paltz	1	
New York:		
Barnard College	200	
Columbia University	426	
New York University:		
University Heights	1	
Washington Square	23	
Ossining	4	
Poughkeepsie	24	
Rochester	5	
Salamanca	1	
Saranac Lake	2	
Schenectady	2	
Syracuse	6	
Utica	7	
Watertown	2	
	—	818
New Jersey:		
Asbury Park	9	
Bordentown	25	
Jersey City	6	
Lawrenceville	8	
Morristown	4	
Newark	36	
New Brunswick	5	
Paterson	6	
Plainfield	8	
Princeton	3	
Trenton	3	
	—	113

Pennsylvania:		
Allegheny	31	
Bethlehem	10	
Erie	3	
Greensburg	5	
Lancaster	3	
Philadelphia	21	
Pottstown	1	
Reading	1	
Saltsburg	3	
Scranton	6	
Washington	0	
Uniontown	3	
Wilkes Barre	7	
Williamsport	1	
	—	95

SOUTH ATLANTIC DIVISION

Delaware		0
District of Columbia:		
Washington		17
Maryland:		
Baltimore		
Johns Hopkins University	4	
The Woman's College	8	
Frederick	1	
Port Deposit	4	
	—	17
Virginia		0
West Virginia		
West Liberty		1
North Carolina		0
South Carolina		0
Georgia:		
Atlanta	0	
Savannah	2	
	—	2
Florida:		
Jacksonville		0

SOUTH CENTRAL DIVISON

Kentucky:		
Louisville		10
Tennessee:		
Chattanooga	3	
Memphis	1	
	—	4
Alabama:		
Birmingham	1	
Mobile	1	
	—	2

Mississippi		0
Louisiana:		
New Orleans		0
Texas:		
Houston	1	
San Antonio	1	
		2
Arkansas:		
Little Rock		0
Oklahoma		0
Indian Territory		0
North Central Division		
Ohio:		
Akron	1	
Cincinnati	3	
Cleveland	12	
Columbus	4	
Toledo	4	
Youngstown	2	
		26
Indiana:		
Fort Wayne	1	
Indianapolis	2	
		3
Illinois:		
Chicago	38	
Jacksonville	1	
		39
Michigan:		
Detroit	3	
Saginaw	2	
		5
Wisconsin:		
Milwaukee		6
Minnesota:		
Duluth	4	
Minneapolis	2	
		6
Iowa:		
Davenport	1	
Dubuque	0	
Keokuk	0	
Sioux City	0	
		1
Missouri:		
Kansas City	1	
St. Joseph	1	
St. Louis	4	
		6
North Dakota:		0
South Dakota:		
Rapid City	1	
Sioux Falls	3	
		4
Nebraska		0
Kansas		0
Western Division		
Montana:		
Helena		1
Wyoming		0
Colorado:		
Denver		3
New Mexico:		
Mesilla Park		1
Arizona		0
Utah:		
Ogden	1	
Salt Lake City	0	
		1
Nevada		0
Idaho		0
Washington:		
Seattle		1
Oregon:		
Portland		4
California:		
Los Angeles	1	
Nordhoff	4	
San Francisco	2	
San Mateo	0	
		7
Insular Territories and Dependencies		
Hawaii:		
Honolulu		5
Porto Rico:		
Ponce		1
Foreign		
England:		
London		1
France:		
Paris		3
Germany:		
Dresden	6	
Strassburg	3	
		9
New Brunswick:		
St. John		1
		1362

The following table classifies the candidates for examination according to residence:

TABLE II

CANDIDATES FOR EXAMINATION CLASSIFIED ACCORDING TO RESIDENCE

RESIDENCE	NUMBER	
NORTH ATLANTIC DIVISION		
Maine	16	
New Hampshire	4	
Vermont	3	
Massachusetts	45	
Rhode Island	2	
Connecticut	48	
New York	735	
New Jersey	162	
Pennsylvania	107	
		1122
SOUTH ATLANTIC DIVISION		
Delaware	3	
Maryland	23	
District of Columbia	19	
Virginia	6	
West Virginia	3	
North Carolina	1	
South Carolina	0	
Georgia	2	
Florida	2	
		59
SOUTH CENTRAL DIVISION		
Kentucky	12	
Tennessee	5	
Alabama	3	
Mississippi	3	
Louisiana	2	
Texas	2	
Arkansas	0	
Oklahoma	0	
Indian Territory	0	
		27
NORTH CENTRAL DIVISION		
Ohio	31	
Indiana	6	
Illinois	39	
Michigan	8	
Wisconsin	6	
Minnesota	8	
Iowa	1	
Missouri	8	
North Dakota	0	
South Dakota	3	
Nebraska	0	
Kansas	1	
		111
WESTERN DIVISION		
Montana	2	
Wyoming	0	
Colorado	3	
New Mexico	1	
Arizona	0	
Utah	1	
Nevada	0	
Idaho	1	
Washington	1	
Oregon	2	
California	6	
		17
INSULAR TERRITORIES AND DEPENDENCIES		
Hawaii	5	
Philippine Islands	1	
Porto Rico	1	
		7
FOREIGN		
England	1	
France	4	
Germany	6	
Japan	2	
Mexico	2	
New Brunswick	2	
		17
Residence not given		2
		1362

The following table classifies the candidates for examination according to age:

TABLE III

CANDIDATES FOR EXAMINATION CLASSIFIED ACCORDING TO AGE

AGE		NUMBER OF CANDIDATES
Fourteen	years	14
Fifteen	“	90
Sixteen	“	206
Seventeen	“	369
Eighteen	“	289
Nineteen	“	221
Twenty	“	56
Twenty-one	“	34
Twenty-two	“	13
Twenty-three	“	12
Twenty-four	“	2
Twenty-five	“	3
Twenty-six	“	5
Twenty-seven	“	2
Twenty-eight	“	4
Twenty-nine	“	1
Thirty-one	“	3
Thirty-two	“	1
Thirty-five	“	1
Forty-eight	“	1
Age not stated		35
		1362

The following table classifies the candidates for examination according to the secondary school attended:

TABLE IV

CANDIDATES FOR EXAMINATION CLASSIFIED ACCORDING TO SCHOOLS

NORTH ATLANTIC DIVISION		
Maine:		
Augusta	Cony High School	1
Brewer	High School	1
Gorham	High School	1
Portland	High School	4
	The Waynflete School	2
Westbrook	High School	3
New Hampshire:		
Concord	St. Paul's School	13
Exeter	Phillips Exeter Academy	10
Meriden	Kimball Union Academy	1
Robinson	Robinson Seminary	2
Massachusetts:		
Adams	High School	3
Andover	Phillips Academy	3
Beverly	High School	1

Boston	Dorchester High School	1
	Girls' Latin School	2
	Mechanic Arts High School	1
	Folsom's (Miss) School	1
Cámbridge	Gilman School	3
	The Lee School	1
Chelmsford	High School	1
Chicopee	High School	1
Duxbury	Powder Point School	1
Franklin	High School	1
	Dean Academy	1
Gloucester	High School.	2
Great Barrington.	Searles School	1
Greenfield	High School	1
Groton	Groton School	2
Holyoke	High School	2
Medway	High School	2
Mt. Hermon	Mt. Hermon School	1
Natick	Walnut Hill School	1
Newburyport	High School	1
North Adams	Drury Academy	1
	High School	1
Northampton	High School	1
North Easton	Oliver Ames High School	2
Rockland	High School	1
Salem	High School	2
Saugus	High School	3
Springfield	High School	3
	MacDuffie School	2
West Bridgewater	Howard School	1
Wilbraham.	Wesleyan Academy	3

Rhode Island:

Newport	Cloyne House School	1
	St. George's School	1

Connecticut:

Berlin	Worthington School	2
Branford	High School	1
Bridgeport	High School	1
	The Courtland School	1
Bristol.	High School	1
Cheshire	Episcopal Academy of Connecticut	1
Greenwich	High School	2
Hartford	St. Thomas' Preparatory School	1
Lakeville	Hotchkiss School	9
	The Taconic School	1
Middletown	High School	2
New Britain	High School	1
New Haven	Booth Preparatory School	1
	Hillhouse High School	1
	University School	2

New London	Bulkeley School	1
	Williams Memorial Institute	4
Norwalk	University School	5
Norwich	Norwich Free Academy	1
Salisbury	St. Austin's School	4
Stamford	Betts Academy	3
	Manor School	1
	High School	1
Torrington	High School	2
Wallingford	Choate School	2
Washington	The Gunnery	2
	The Ridge School	1
Waterbury	High School	1
Winsted	Gilbert School	2

New York:

Albany	Albany Female Academy	1
	High School	1
Amenia	Amenia Union School	2
Batavia	High School	1
Binghamton	High School	3
Brooklyn	Adelphi Academy	8
	Bodman's (Miss) School	1
	Boys' High School	18
	Erasmus Hall High School	7
	Girls' High School	3
	Hall's (Miss) School	1
	The Latin School	1
	Manual Training High School	6
	Packer Collegiate Institute	3
	Pratt Institute	5
	Polytechnic Institute	15
Buffalo	Franklin School	1
Canandaigua	Canandaigua Academy	1
	High School	1
	Granger Place School	1
Clinton	High School	1
Cooperstown	High School	1
Cornwall Heights	Cornwall Heights School	1
Dobbs Ferry	Mackenzie School	7
	Master's (Miss) School	1
Flushing	Flushing Institute	1
Fordham	St. John's College	1
Fort Plain	High School	1
Fredonia	Normal School	1
Garden City	St. Paul's School	4
Geneseo	Normal School	1
Geneva	High School	1
Hempstead	High School	1
Huntington	High School	1
Irvington	High School	2
	The Bennett School	1

Ithaca	Cascadilla School	14
	High School	5
	University Preparatory School	6
Lakemont	Palmer Starkey Institute	1
Locust Valley	Friends' Academy	1
Lowville	Lowville Academy	1
Manlius	High School	1
Mt. Vernon	Lockwood Collegiate School	1
	High School	2
New Brighton	Botsford's (Miss) School for Girls	1
	Staten Island Academy	1
Newburg	Newburg Academy	3
New Paltz	State Normal School	1
New Rochelle	High School	1
New York	Academy of the Sacred Heart	1
	Anderson School	1
	Barnard Classes	1
	Barnard School	5
	Barnard School for Girls	2
	Berkeley School	7
	Blake School	2
	Brearley School	8
	Browning School	3
	Chapin's Collegiate School	8
	Classical School for Girls	1
	College of the City of New York	4
	Collegiate School	11
	Collegiate School for Girls	5
	Cooper Institute	4
	Columbia Grammar School	25
	Columbia Institute	6
	Cutler School	19
	De la Salle Institute	1
	DeWitt Clinton High School	42
	Drisler School	7
	Dwight School	13
	Ethical Culture School	4
	Ely's (Misses) School	5
	Finch's (Mrs.) School	4
	Friends' Seminary	1
	Graham's (Misses) School	1
	Hamilton Grange School	2
	Hamilton Institute	9
	Hoff's (Miss) School	2
	Horace Mann School	40
	Irving School	3
	Jaudon's (Misses) School	1
	Kohut School	2
	Le Baron Drumm School	1
	Lenox Institute	2
	Morris High School	38
	Morse and Rogers School	1

	Morgan's, Leslie, (Mrs.) School	2
	New York Collegiate Institute	2
	New York Preparatory School	4
	Normal College	3
	Park Avenue School	5
	Peebles and Thompson School	1
	Rayson's (Misses) School	1
	Sachs' Collegiate Institute	46
	Senftner School	2
	Spence's (Miss) School	1
	St. Ann's Academy	4
	St. Mary's School	5
	Trinity School	28
	Veltin School	6
	Wadleigh High School	18
	Weingart Institute	5
	Wilson-Lyon School	8
	Woodbridge School	8
	Young Men's Christian Association	1
Nyack	Hudson River Military Academy	1
Ossining	Dr. Holbrook's School	3
	Mount Pleasant Military Academy	3
Peekskill	Peekskill Military Academy	1
Port Richmond	Port Richmond High School	1
Poughkeepsie	Lyndon Hall	7
	Putnam Hall	3
	Quincy Hall	7
	Riverview Military Academy	2
Rochester	High School	1
Rye	Rye Seminary	2
Salamanca	High School	1
Schenectady	Union Classical Institute	2
Smyrna	Smyrna Union School	1
Syracuse	Jenner's School	3
	Keble High School	1
	Syracuse Classical School	1
Troy	Troy Academy	1
Union Springs	Oakwood Seminary	1
Utica	Balliol School	1
	Free Academy	2
Watertown	High School	1
Yonkers	High School	16
New Jersey:		
Asbury Park	High School	4
Bayonne	Bergen Point School	1
	High School	1
Blairstown	Blair Presbyterial Academy	3
Bloomfield	High School	2
Boonton	High School	3
Bordentown	Bordentown Military Academy	22
	Priscilla Braislin School	6

Burlington	Van Rensselaer Seminary	1
Dover	High School	1
East Orange	High School	14
Elizabeth	Pingry School	1
	Vail-Dean School	1
Englewood	Helicon Hall	1
Freehold	New Jersey Military Academy	1
Hightstown	Peddie Institute	1
Hoboken	Stevens School	4
Jersey City	Bergen School for Girls	3
	Hasbrouck Institute	7
	High School	2
Kearny	High School	2
Lawrenceville	Lawrenceville School	8
Long Branch	Chattle High School	3
Montclair	Cloverside School	2
	High School	1
	Montclair Military Academy	3
Morristown	Dana's (Miss) School	2
	Morristown School	4
Newark	Craven's (Miss) School for Girls	2
	High School	9
	Newark Academy	11
	Townsend's (Miss) School	5
New Brunswick	Anable's (Misses) School	1
	Rutgers Preparatory School	3
Orange	Beard's (Miss) School	5
	Carteret Academy	1
	High School	3
Passaic	High School	2
	Passaic Collegiate School	2
Paterson	High School	4
	Hoover's (Miss) School	3
	Paterson Academy	1
Plainfield	High School	3
	Leal's (Mr.) School	6
Princeton	Princeton School	3
Short Hills	Carteret School	1
Somerville	High School	1
South Orange	Baldwin's (Miss) School	1
Summit	Cedarcroft School	2
	Kent Place School	3
	Summit Academy	1

Pennsylvania:

Allegheny	Allegheny Preparatory School	12
	High School	1
Allentown	High School	1
Bethlehem	Bethlehem Preparatory School	6
Braddock	High School	1
Bustleton	St. Luke's School	3
Clarion	State Normal School	1

Easton	Lerch's School	1
Erie	High School	1
Factoryville	Keystone Academy	1
Greensburg	High School	4
George School	George School	2
Hollidaysburg	Hollidaysburg School	2
Kingston	Wyoming Seminary	3
Lancaster	Stahr's (Miss) School	1
	Yeates School	2
Lock Haven	Central State Normal School	1
Mercersburg	Mercersburg Academy	1
Ogontz	Cheltenham Academy	4
Philadelphia	Bardwell School	1
	Case and Child School	2
	De Lancey School	2
	High School	1
	Notre Dame Academy	1
	William Penn Charter School	4
Pittsburg	Central High School	2
	East Liberty Academy	1
	Shadyside Academy	3
Pottstown	Hill School	1
Scranton	Bryn Mawr Preparatory School	2
	High School	4
Saltsburg	Kiskiminetas Springs School	3
Sewickley	Sewickley School	1
Towanda	High School	1
Uniontown	Darlington's (Miss) School	3
Wyncote	Chelten Hills Select School	3

SOUTH ATLANTIC DIVISION

Delaware:

Wilmington	Wilmington Friends' School	1
	Wilmington Military Academy	2

Maryland:

Baltimore	Baltimore City College	1
	Boys' Latin School	1
	Bryn Mawr School	1
	Girls' Latin School	2
	Marston's University School	1
	Young Men's Christian Association	1
Catonsville	Beaumont School	2
Frederick	Frederick College	1
Millersville	Anne Arundel Academy	1
Port Deposit	Jacob Tome Institute	4

District of Columbia:

Washington	Central High School	5
	Eastern High School	1
	Friends' Select School	3
	Manual Training School	2
	Technical School	1
	University School	1
	Western High School	2

Virginia:		
Lynchburg	High School	1
Norfolk	High School	1
West Virginia:		
West Liberty	Normal School	1
North Carolina:		
Asheville	Asheville School	3
Georgia:		
Savannah	Hartridge School	1
	Savannah Preparatory School	1

SOUTH CENTRAL DIVISION

Kentucky:		
Louisville	Boys' High School	1
	Flexner School	2
	Girls' High School	1
	Semple Collegiate School	6
Tennessee:		
Chattanooga	High School	1
	Normal School	1
Memphis	St. Mary's School	1
Alabama:		
Birmingham	The Taylor School	1
Mobile	Boys' High School	1
Louisiana:		
New Orleans	University School	1
Texas:		
San Antonio	West Texas Military Academy	1

NORTH CENTRAL DIVISION

Ohio:		
Akron	Oak Place School	1
Cincinnati	Educational Institute	1
	Hughes High School	1
Cleveland	Central High School	3
	Mittleberger's (Miss) School	3
	University School	4
Columbus	University School	1
Marion	High School	1
Oberlin	Oberlin Academy	1
Springfield	Girls' High School	1
Toledo	High School	1
	The Smead School	2
Youngstown	Rayen High School	2
Indiana:		
Fort Wayne	High School	1
Indianapolis	Shortridge High School	2
South Bend	High School	1

Illinois:		
Aurora	East Aurora High School	1
Chicago	Armour Institute	1
	Harvard School	1
	Hyde Park High School	1
	Kenwood Institute	2
	Kirkland School	1
	Medill High School	1
	Manual Training School	1
	Stevon School	1
	University School	7
	University School for Girls	7
Evanston	High School	2
Highland Park	Northwestern Military Academy	1
Jacksonville	Woman's College	1
Kenilworth	Rugby School	1
Morgan Park	Morgan Park Academy	1
Winnetka	Girton School	2
Michigan:		
Big Rapids	Big Rapids Public School	1
Manistee	High School	1
Owasso	High School	1
Saginaw	High School	1
St. Joseph	High School	1
Wisconsin:		
Milwaukee	Latin School	1
	Milwaukee Academy	3
Minnesota:		
Duluth	Central High School	1
	Craggencroft	3
Worthington	High School	1
Iowa:		
Keokuk	High School	1
Missouri:		
Kansas City	Manual Training High School	1
St. Joseph	High School	1
St. Louis	High School	1
	The Mary Institute	1
	University School	1
South Dakota:		
Sioux Falls	All Saints' School	3
WESTERN DIVISION		
Montana:		
Helena	High School	1
Colorado:		
Denver	Denver High School, District No. 1	3
	University School	1
	West Denver High School	1
New Mexico:		
Mesilla Park	College of Agriculture and Mechanic Arts	1

Utah:		
Ogden	High School	1
Washington:		
Seattle	University of Washington	1
Oregon:		
Portland	Portland Academy	3
California:		
Los Angeles	Girls' Collegiate School	1
Nordhoff	Thacher School	4
Oakland	High School	1
Riverside	High School	1
San Francisco	Murison's (Miss) School	1
Hawaii:		
Honolulu	High School	5
FOREIGN		
Canada:		
Montreal	Mt. St. Louis School	1
St. John, N. B.	High School	1
Germany:		
Dresden	Franklin College	5
Strassburg	American College	2
Switzerland		
Geneva	Chateau de Lancy	1
Barnard Students		9
Columbia Students		13
Cornell Students		6
Private Tutors		46
Preparatory School not stated		54

The following table classifies the candidates for examination according to the class or type of secondary school attended:

TABLE V

CANDIDATES FOR EXAMINATION CLASSIFIED ACCORDING TO TYPE OF SECONDARY SCHOOL ATTENDED

TYPE OF SCHOOL	NUMBER OF SCHOOLS	NUMBER OF CANDIDATES	
Public high schools	132	361	29.3 per cent.
Academies and endowed schools	71	255	20.7
Private schools	177	600	48.5
Normal schools	8	10	.8
Colleges	5	8	.7
	393	1234	

Of the 128 candidates not accounted for in this table 46 were prepared for the examinations by private tutors, 28 were college students who took the examinations for the purpose of removing entrance conditions, and 54 did not indicate the place of preparation.

The following table shows the several colleges and scientific schools to which the candidates for examination declared themselves to be seeking admission:

TABLE VI

INSTITUTIONS TO WHICH ADMISSION WAS SOUGHT BY CANDIDATES FOR EXAMINATION

Amherst College	1
Barnard College	152
Bryn Mawr College	23
Columbia University	461
Cornell University	190
Dartmouth College	1
Georgetown University	2
Harvard University	1
Johns Hopkins University	4
Lafayette College	1
Lehigh University	3
Massachusetts Institute of Technology	28
Mount Holyoke College	31
New York University	10
Pomona College	1
Princeton University	31
Rensselaer Polytechnic Institute	1
Smith College	13
Syracuse University	2
Teachers College, Columbia University	8
Training School for Teachers	3
Trinity College	1
Union University	1
University of California	4
University of Chicago	2
University of Michigan	2
University of Pennsylvania	12
University of Rochester	1
Vassar College	147
Wellesley College	38
Wesleyan University	1
Williams College	11
Woman's College of Baltimore	10
Yale University, Yale College	14
Yale University, Sheffield Scientific School	12
Preference not stated	139
	1362

Work of the Readers

As in the preceding year the work of the readers was concentrated at the offices of the board in New York in order to promote uniformity of standards in rating and in order to expedite the work of reading. The reading of the answer-books began at 9 o'clock A. M., on Tuesday, June 17, and continued in the case of most subjects until Tuesday or Wednesday of the following week. The names of the readers are given in the following list:

BOTANY

Willard Winfield Rowlee.......Assistant Professor of Botany, Cornell University N. Y.
Cornell University, B. L., 1888, and D. Sc., 1893.

Susie Percival Nichols.......Teacher in the Houghton Seminary, Clinton, N. Y.
Cornell University, B. S., 1898.

CHEMISTRY

Robert William Hall.............Professor of Chemistry, New York University
Princeton University, A. B., 1873, and A. M., 1876; Columbia University, M. E., 1876.

Victor John Chambers.........Tutor in Organic Chemistry, Columbia University
University of Rochester, B. S., 1895; Johns Hopkins University, Ph. D., 1901.

Thomas Hatfield Currie, Teacher in the Columbia Grammar School, New York, N. Y., Harvard University, 1891, A. B., and A. M., 1893.

DRAWING

Ralph Edward Mayer..............Instructor in Drawing, Columbia University
Columbia University, C. E., 1879.

Harold Haven Brown, Teacher in the DeWitt Clinton High School, New York, N. Y.

ENGLISH

George Rice Carpenter, Professor of Rhetoric and English Composition, Columbia University
Harvard University, A. B., 1888.

Herbert Bates, Head Teacher in the Manual Training High School, Brooklyn, N. Y.

William Tenney Brewster............Instructor in English, Columbia University
Harvard College, A. B., 1892; Harvard University, A. M., 1893.

Theodore Clarence Mitchill, Teacher in the Boys' High School, Brooklyn, N. Y.
Columbia University, A. B., 1886.

Benton Sullivan Monroe,..............Instructor in English, Cornell University
Cornell University, A. B., 1896, A. M., 1897, and Ph. D., 1901.

Clark Sutherland Northup..... ....Instructor in English, Cornell University
Cornell University, A. B., 1893, and Ph. D., 1898.

Ernest Scott Quimby...........Teacher in the Drisler School, New York, N. Y.
Wesleyan University, A. B., 1896.

FRENCH

Albert Schinz ....Associate in French Literature, Bryn Mawr College

University of Neuchâtel, A. B., 1888, and A. M., 1889; University of Tübingen, Ph. D., 1894.

Frank Elbert Brooks, Instructor in French, Teachers College, Columbia University

Cornell University, A. B., 1890.

Harry Egerton Ford, Professor of Romance Languages, Washington and Jefferson College

Toronto University, A. B., 1895, and A. M., 1900.

Virginia Newcomb, Teacher in the Randolph and Pond School, New York, N. Y.

Barnard College, A. B., 1900; Columbia University, A. M., 1902.

Cornelia Hephzibah Bulkley Rogers. . Assistant Professor of Romance Languages, Vassar College

Wellesley College, A. B., 1884; Yale University, Ph. D., 1894.

GEOGRAPHY

Clara B. Kirchwey. . Tutor in Geography, Teachers College, Columbia University

Joseph Moore Jameson..........Teacher in the Pratt Institute, Brooklyn, N. Y.

Cornell University, Ph. B., 1893.

GERMAN

Lawrence A. McLouth. . . .Professor of the Germanic Languages, and Literatures New York University

University of Michigan, A. B., 1887.

George Maxwell Howe...............Instructor in German, Cornell University

State University of Indiana, A. B., 1894; Cornell University, Ph. D., 1901.

Frederick Monteser, Teacher in the DeWitt Clinton High School, New York, N. Y.

Vienna, Ph. D., 1885; New York University, Pd. D., 1893.

Hermann J. Schmitz, Professor of German Language and Literature, Western University of Pennsylvania.

Wooster University, A. M., 1875.

Rudolf Tombo, Sr. .... .Tutor in German, Barnard College

University of Rostock, Ph. D., 1870.

GREEK

William Nickerson Bates, Assistant Professor of Greek, University of Pennsylvania

Harvard College, A. B., 1890, A. M., 1891, and Ph. D., 1893.

Grace Harriet Macurdy................ . . .Instructor in Greek, Vassar College

Radcliffe College, A. B., 1888.

Anna Cole Mellick...........Teacher in the Brearley School, New York, N. Y.

Columbia University, A. B., 1896.

James Dennison Rogers................Lecturer in Greek, Columbia University

Hamilton College, A. B., 1889; Columbia University, A. M., 1893, and Ph. D., 1894.

HISTORY

Frederick Robertson Jones........Assistant Professor of History, Union College

Western Maryland College, A. B., 1892, and A. M., 1895; Johns Hopkins University, Ph. D., 1896.

George Douglas Robins, Teacher in the Riverview Military Academy, Poughkeepsie, N. Y.

Wesleyan University, A. B., 1898.

James Thompson Shotwell........ . . .Lecturer in History, Columbia University

Toronto University, A. B., 1898.

LATIN

Nelson Glenn McCrea. ....Adjunct Professor of Latin, Columbia University
Columbia University, A. B., 1885, A. M., 1886, and Ph. D., 1888.

Charles Nelson Cole....................Instructor in Latin, Cornell University
Wesleyan University, A. B., 1894; University of Illinois, A. M., 1897; Harvard University, Ph. D., 1901.

Charles Joseph Deghuee, Teacher in the Trinity School, New York, N. Y.
Columbia University, A. B., 1884: A. M., 1885, L. H. D., 1886.

Otto Koenig........Teacher in the Sachs Collegiate Institute, New York, N. Y.
University of Munich, J. U. D., 1887.

Richard Alexander von Minckwitz, Teacher in the DeWitt Clinton High School, New York, N. Y.

Ferris Walton Price...................Professor of Latin, Swarthmore College
Swarthmore College, A. B., 1874, and A. M., 1887.

MATHEMATICS

William Henry Metzler..........Professor of Mathematics, Syracuse University
Toronto University, A. B., 1888; Clark University, Ph. D., 1892.

Grace Andrews.....................Assistant in Mathematics, Barnard College
Wellesley College, B. S., 1890; Columbia University, A. M., 1899, and Ph. D., 1901.

Charles Earl Biklé, Adjunct Professor of Mathematics, Teachers College, Columbia University
Dickinson College, A, B., 1886, and A. M., 1889.

Elsa Bowman................Teacher in the Brearley School, New York, N. Y.
Bryn Mawr College, A. B., 1896.

Eleanor Catherine Doak......Instructor in Mathematics, Mount Holyoke College
Coates College, B. A., 1892; University of Chicago, B. Ph., 1901.

Frederick Ernest Farrington, Teacher in the Collegiate School, New York, N. Y.
Harvard University, A. B., 1894.

Edward Kasner.......................Tutor in Mathematics, Barnard College
College of the City of New York, B. S., 1896; Columbia University, A. M., 1897, and Ph. D., 1899.

Richard Morris....................Instructor in Mathematics, Rutgers College
Rutgers College, B. S., 1899.

Leonard Magruder Passano, Instructor in Mathematics, Massachusetts Institute of Technology
Johns Hopkins University, A. B., 1889.

Arthur Schultze...Teacher in the DeWitt Clinton High School, New York, N. Y.
University of Kiel, Ph. D., 1887.

PHYSICS

Arthur Willis Goodspeed, Assistant Professor of Physics, University of Pennsylvania
Harvard University, A. B., 1884; University of Pennsylvania, Ph. D., 1889.

Joseph Moore Jameson..........Teacher in the Pratt Institute, Brooklyn, N. Y.
Cornell University, Ph. B. 1893.

Frank Leo Tufts.................... ...Tutor in Physics, Columbia University
Antioch College, B. S., 1891; Harvard University, A. B., 1894; Columbia University, A. M., 1896, and Ph. D., 1897.

SPANISH

Louis Auguste Loiseaux, Instructor in the Romance Languages and Literatures, Columbia University
University of Dijon, B. S., 1894.

Camille Fontaine, Instructor in the DeWitt Clinton High School, New York, N. Y.
University of Paris, B. L., 1874, B. D. 1876, and L. D., 1877.

In accordance with the fundamental principle of co-operation which characterizes the work of the board, one or more secondary-school teachers were appointed to serve in each group of readers. The total number of answer-books, including laboratory notebooks, read once was 12,251, and the total number read a second time by a second reader was 5267, so that the actual number of answer-books read once by a single reader was 17,518. Every answer-book rated 60 or below was examined independently by two readers. It is of interest to note that while the number of candidates has increased by about 40 per cent. the number of answer-books has increased by over 50 per cent. It would appear, therefore, that the candidates as a rule presented themselves for examination this year in a larger number of subjects than the preceding year. The following table gives statistics of interest in regard to the number of answer-books read in each subject.

TABLE VII

SUBJECT	NUMBER OF ANSWER-BOOKS RECEIVED	NUMBER OF ANSWER-BOOKS READ A SECOND TIME	TOTAL	NUMBER OF HOURS SPENT IN READING	AVERAGE NUMBER OF ANSWER-BOOKS READ PER HOUR
Botany	5	5	15	3	5
Laboratory books	5	—			
Chemistry	239	125	567	90	5.3
Laboratory books	203	—			
Drawing	136	37	173	15	11.8
English	1504	506	2010	161	12.5
French	773	389	1162	158	7.4
Geography	6	3	14	3	4.7
Laboratory books	5	—			
German	740	355	1095	201	5.4
Greek	920	617	1537	123½	12.5
History	961	392	1353	128	10.6
Latin	3081	1307	4388	222	19.8
Mathematics	3194	1418	4612	481¾	9.4
Physics	240	109	579	45	12.9
Laboratory books	230	—			
Spanish	9	4	13	4	3.3
	12,251	5267	17,518	1635¼	10.7

The average number of answer-books read per hour varies greatly with the subject. The very rapid rate at which the answer-books in Latin were read was due in part to the fact that the readers in that subject were practically the same as last year and had had the benefit of last year's experience, but perhaps more largely to the fact that in Latin there was a large number of short examinations, so that many of the answer-books contained only one or two pages of writing.

In recording the results of the examinations in the secretary's office no clerical errors were made except such as were immediately discovered thru the system of checking that was adopted. A very few reports which were incorrect thru the omission of a single rating found their way into the hands of candidates. In every such case the omission was due to incomplete returns from the readers. Each candidate concerned hastened to call attention to the slip and the error was speedily rectified. Two or three reports contained errors as a result of candidates having failed to write their examination numbers correctly. The necessity of exercising great care in writing the examination numbers upon the answer-books was perhaps not sufficiently impressed upon the candidates by the supervisors. On the whole, the accuracy with which the work of recording the results of the examinations was performed was extremely gratifying to the secretary.

The great bulk of the certificates giving the results of the examinations was mailed to the candidates on June 30 and on July 1. The certificates of those candidates whose examinations were held at remote points, or whose applications were in some way irregular, were necessarily mailed somewhat later.

Results of the Examinations

The following table, showing the results of the examinations, is of considerable interest, especially when taken in connection with the similar table published in the report of the secretary for last year:

TABLE VIII

	Number of Candidates	% *Ratings* 90–100	% *Ratings* 75–89	% *Ratings* 60–74	% *Ratings* 50–59	% *Ratings* 40–49	% *Ratings* 0–40	% *Ratings* 40–100	% *Ratings* 50–100	% *Ratings* 60–100
English										
a. Reading	800	5.5	24.1	38.4	19.3	7.1	5.7	94.3	87.3	68.0
b. Study	704	5.4	24.2	35.0	17.6	9.4	8.5	91.5	82.2	64.6
	1504	*5.5*	*24.1*	*36.8*	*18.4*	*8.2*	*7.0*	*93.0*	*84.8*	*66.4*
History										
a. Ancient	52	11.5	19.2	50.0	5.8	11.5	1.9	98.1	86.5	80.7
i. Greek	146	3.4	28.1	44.5	10.9	6.2	6.9	93.1	86.9	76.0
ii. Roman	155	3.9	27.1	41.9	5.8	9.0	12.2	87.8	78.7	72.9
b. Mediæval and Modern	16	—	50.0	37.5	—	6.3	6.3	93.7	87.5	87.5
c. English	253	1.2	8.7	37.6	18.2	16.6	17.8	82.2	65.7	47.5
d. American	339	1.2	14.5	34.2	18.3	15.3	16.5	83.5	68.2	49.9
	961	*2.5*	*17.9*	*38.8*	*14.2*	*12.9*	*13.8*	*86.2*	*73.4*	*59.2*
Latin										
a. i. Grammar	540	4.4	17.1	38.1	13.3	15.2	12.1	87.9	72.9	59.6
ii. Composition	534	3.0	7.9	29.9	13.7	19.7	25.8	74.2	54.5	40.8
b. Cæsar	347	33.1	36.6	18.5	3.2	5.8	2.8	97.2	91.4	88.2
c. Cicero	477	10.5	26.4	28.9	7.6	10.1	16.6	83.4	73.4	65.8
d. Virgil, Æneid, I–VI	388	2.1	17.8	41.8	8.8	18.3	11.3	88.7	70.5	61.7
e. Nepos	39	2.6	10.3	30.8	2.6	25.6	28.3	71.7	46.3	43.7
f. Sallust	14	7.1	—	42.9	—	14.3	35.7	64.3	50.0	50.0
g. Ovid	20	—	30.0	20.0	5.0	10.0	35.0	65.0	55.0	50.0
h. Virgil, Ecl. and Georg.	4	—	50.0	—	25.0	—	25.0	75.0	75.0	50.0
i. Virgil, Æneid, VII–XII	4	—	—	—	—	75.0	25.0	75.0	—	—
k. Cicero, Am. and Sen.	2	—	50.0	—	—	—	50.0	50.0	50.0	50.0
l. Advanced Composition	291	1.4	4.8	27.1	8.6	23.1	35.1	64.9	41.9	33.3
m. Sight Translation	421	5.5	14.9	37.1	12.4	15.7	14.5	85.5	69.9	57.5
	3081	*7.9*	*17.7*	*32.0*	*9.9*	*15.4*	*17.0*	*83.0*	*67.5*	*57.6*
Greek										
a. i. Grammar	190	1.6	10.0	12.1	14.2	18.9	43.2	56.8	37.9	23.7
ii. Composition	166	2.4	12.1	10.2	9.6	9.0	56.6	43.4	34.3	24.7
b. Xenophon	183	3.3	12.1	28.4	15.8	16.9	23.5	76.5	59.6	43.8
c. Homer, Iliad, I–III	135	1.5	20.8	37.8	18.5	9.6	11.9	88.1	78.6	60.1
d. Homer, Iliad, VI–VIII	13	15.4	23.1	30.8	15.4	7.7	7.7	92.3	84.7	69.3
e. Herodotus	—	—	—	—	—	—	—	—	—	—
f. Advanced Composition	99	—	9.1	11.1	8.1	16.1	55.6	44.4	28.3	20.2
g. Sight Translation	134	1.5	9.0	9.7	8.2	12.7	58.9	41.1	28.4	20.2
	920	*2.1*	*12.3*	*18.6*	*12.8*	*14.1*	*40.2*	*59.8*	*45.8*	*33.0*
French										
a. Elementary	509	2.8	20.2	29.5	14.5	12.0	21.1	78.9	67.0	52.5
b. Intermediate	226	.9	16.4	31.9	17.3	15.1	18.6	81.4	66.5	49.2
c. Advanced	38	—	2.6	13.2	7.9	15.8	60.5	39.5	23.7	15.8
	773	*2.1*	*18.2*	*29.4*	*15.1*	*13.1*	*22.3*	*77.7*	*64.8*	*49.7*
German										
a. Elementary	493	2.2	21.7	29.0	12.6	12.4	22.1	77.9	65.5	52.9
b. Intermediate	191	4.7	19.9	30.9	12.6	12.6	19.4	80.6	68.1	55.5
c. Advanced	56	1.8	5.4	25.0	10.8	10.8	46.4	53.6	43.0	32.2
	740	*2.8*	*20.0*	*29.2*	*12.4*	*12.3*	*23.2*	*76.8*	*64.4*	*52.0*
Spanish	9	—	44.4	11.1	—	11.1	33.3	66.7	55.6	55.6
Mathematics										
a. Elementary										
i. To Quadratics	810	22.2	22.5	25.7	10.5	8.4	10.7	89.3	80.9	70.4
ii. Quadratics, etc.	638	8.5	10.2	34.5	6.4	11.8	28.7	71.3	59.6	53.2
iii. Progressions, etc.	355	11.0	11.0	22.5	5.1	6.8	43.7	56.3	49.6	44.5
b. Advanced Algebra										
i. Series	71	2.8	5.6	21.1	11.3	14.1	45.1	54.9	40.8	29.5
ii. Theory of Equations	50	—	4.0	20.0	6.0	8.0	62.0	38.0	30.0	24.0
c. Plane Geometry	782	5.1	14.7	37.9	12.7	12.4	17.3	82.7	70.4	57.7
d. Solid Geometry	249	3.2	6.4	28.9	12.9	15.3	33.3	66.7	51.4	38.5
e. Trigonometry										
i. Plane	207	11.6	17.4	27.5	11.1	14.1	18.4	81.6	67.6	56.5
ii. Spherical	32	6.3	6.3	25.0	6.3	18.7	37.5	62.5	43.9	37.6
	3194	*10.9*	*14.5*	*30.3*	*9.8*	*11.0*	*23.7*	*76.3*	*65.5*	*55.7*
Physics	222	4.1	21.6	34.7	23.9	10.8	4.9	95.1	84.3	60.4
Chemistry	193	10.4	29.5	31.6	14.5	8.3	5.7	94.3	86.0	71.5
Botany	5	20.0	—	40.0	40.0	—	—	100.0	100.0	60.0
Geography	5	—	20.0	20.0	—	—	60.0	40.0	40.0	40.0
Drawing	136	6.6	22.8	43.4	7.4	8.1	11.8	88.2	80.2	72.8
	11744	*6.7*	*17.8*	*31.4*	*12.4*	*12.4*	*19.4*	*80.6*	*68.3*	*55.9*

The average number of ratings per candidate this year is 8.6. Last year the corresponding number was 8.1.

The examinations appear, on the whole, to have been slightly more difficult than those of last year. Fifty-six per cent. of the answer-books received were rated 60 or above as against fifty-nine per cent. which were similarly rated last year. The following table institutes a comparison between the results of the two years. The variations that appear are probably smaller than one would have anticipated:

TABLE IX

Ratings	1901	1902
90–100	7.1 per cent.	6.7 per cent.
75–89	20.2	17.8
60–74	32.0	31.4
50–59	11.2	12.4
40–49	11.7	12.4
30–39	17.8	19.4

Financial

The operations of the board from December 1, 1901, to September 1, 1902, have involved an expenditure of $7136.06. The estimated expenditure for the remainder of the fiscal year, that is, up to December 1, 1902, is $605, making the total expenditure for the year $7741.06. By vote of the board on November 9, 1901, the sum of $7500 was appropriated for expenses during the current fiscal year. Thus the actual expenditures will probably exceed the appropriation by about $250. The revenues of the board up to September 1 amount to $6844.55. During the last three months of the fiscal year they will be increased to some extent thru the sales of documents and by reason of the amount to be received from Ginn & Co. as a result of sales of the first volume of examination questions. The apparent deficit of $891.51 will in this way be somewhat reduced.

If the operations of the board are next year conducted on the same plan as this year, the increase in the number of candidates that can be looked for, even on a conservative basis, will more than cover the amount of the deficit, and the examination system established by the board will be self-supporting. It appears desirable, however, to place the operations of the board at as early a date as possible upon a thoro business basis and to give pecuniary compensation to the supervisors at all points where considerable numbers of candidates are examined, as well as more adequately to remunerate the examiners and readers.

The present indebtedness of the board amounts to $6800, of which $3500 was advanced by a generous friend of its work and the remainder by the colleges co-operating in the work during the first year of the board's existence.

Statement of Income and Expenditures

The receipts and expenditures during the current fiscal year to which reference is made above are stated in full in the financial statement which follows:

TABLE X

FINANCIAL STATEMENT, DECEMBER 1, 1901, TO SEPTEMBER 1, 1902

RECEIPTS

1. Balance on hand, December 1, 1901		$2916.57
2. Sales of documents		59.55
3. Advances by co-operating colleges		150.00
4. Contributions toward expenses of examinations held abroad		35.00
5. Examination fees:		
1347 at $5	$6735.00	
15 at 1	15.00	6750 00
1362 Total		$9911.12

EXPENDITURES

A. Office of the secretary:			
1. Salaries		$1465.00	
2. Printing		564.39	
3. Stationery and incidentals		103 94	
4. Postage and express		153.90	
5. Clerical and other services		290.37	
			$2577.60
B. Conduct of examinations:			
1. Examiners			
Salaries	$955.00		
Expenses	233.92		
		$1188.92	

2. Readers			
Salaries	$1463.50		
Expenses	409.94		
		1873.44	
3. Supervisors and proctors			
Expenses		459.82	
4. Examination supplies			
Question papers, answer-books, logarithmic tables, maps, etc.		690.47	
5. Postage and express		345.81	$4558.46
Total expenses			$7136.06
Balance on hand			
With the secretary		93.68	
With the treasurer		2681.38	$2775.06
Total			$9911.12

The estimated expenses for the remainder (three months) of the fiscal year are:

Salaries	$495.00	
Postage	10.00	
Stationery and incidentals	25.00	
Binding of records (say)	25.00	
Annual report (say)	50.00	
		$605.00

Probable Income Hereafter

The ease with which the board can be made self-supporting and its operations placed upon a sound business basis is evident upon considering the large number of candidates that are examined by institutions that are actively interested in the work of the board, but have not yet discontinued their separate examinations. The following table shows the number of candidates examined by those colleges in the Middle States and Maryland that have shown themselves to be interested in the work, and by the Massachusetts Institute of Technology, Mount Holyoke College, and Wellesley College, which have become active members of the board:

TABLE XI

NUMBER OF CANDIDATES SEPARATELY EXAMINED IN JUNE, 1902, BY THE COLLEGES NAMED

COLLEGE	EXAMINED AT THE COLLEGE	EXAMINED ELSEWHERE	TOTAL	PLACES OF EXAMINATION
Barnard College	0	0	0	0
Bryn Mawr College	166	145	311	16
Bucknell University	0	0	0	0
Colgate University	65	0	65	1
Columbia University	0	0	0	0
Cornell University	0	0	0	0
Johns Hopkins University	73	1	74	2
Lehigh University	62	32	94	16
Massachusetts Institute of Technology	729	160	889	25
Mount Holyoke College	53	0	53	1
New York University	0	0	0	0
Princeton University	99	655	754	72
Rutgers College	72	0	72	1
Swarthmore College	2	0	2	1
Syracuse University	25	0	25	1
Union University	22	5	27	4
University of Pennsylvania	200	24	224	17
University of Rochester	47	0	47	1
Vassar College	0	0	0	0
Washington and Jefferson College	8	0	8	1
Wellesley College	22	0	22	1
Western University of Pennsylvania	0	0	0	0
Woman's College of Baltimore	0	0	0	0
	1645	1022	2667	160

The total number of candidates examined separately by these institutions, added to the number examined this year by the board, makes more than 4000 candidates. This number would bring the board an annual income of $20,000, and would enable the board within a single year to wipe out its indebtedness and at the same time pay adequately for every service which it demands. In this connection attention should be called to the fact that the board will without doubt soon begin to derive a considerable revenue from candidates who take its examinations not with a view to entering college, but simply as a means of graduation from the secondary schools.

Policy of the Board

A development of great interest in connection with the work of the board is seen in the desire already expressed at several points on the part of school authorities to use the examinations of the board as graduation examinations for secondary schools. The importance of a movement to make the tests for graduation from the secondary schools identical with the tests for admission to college can hardly be over-estimated. To attain this end has been, in fact, the chief aim of the certificate system of admission to college. If the examination system established by the board be adopted generally by schools as the means of testing the fitness of candidates for graduation, not only will the secondary schools and the colleges secure identity of standards at their point of contact, but the standards will be impersonal, impartial, and in every essential respect uniform. From the point of view of the administration of the examinations, it is, of course, desirable that the number of candidates taking the examinations be increased as greatly and as rapidly as possible in order to put the examinations on a sound financial basis and in order also that their influence may be more widely and more strongly felt. Not to mention private institutions, the boards of education of two municipalities have already voted to make the examinations of the College Entrance Examination Board the basis of graduation from the public high schools. It remains, however, to work out certain minor administrative details and to arrange possibly for examinations in January as well as in June before the proposed plan can be fully carried out. It is certainly devoutly to be wished that every possible cause of delay in extending the work of the board in the direction indicated may be avoided.

The policy of the board in one important respect has escaped full appreciation on the part of a number of candidates and their teachers. It is that the board has no "passing mark." At the time that the board was organized it was believed that for many reasons institutions accepting the board's examinations would not all wish to adopt a uniform and invariable passing mark. The experience of the two years just passed indicates very clearly that the board's policy in this respect was wise. Some institutions are finding it of advantage to adopt different passing marks for different subjects. It is clear that local conditions will lead many institutions for the present to accept, at least in certain subjects, lower ratings than they will require after a few years have elapsed. Several institutions desire in the case of subjects which, like Latin and Greek, are subdivided into a considerable number of parts, to combine the ratings obtained by a candidate so that a very high grade in one part may to a certain extent compensate for a lower grade in another part. For example, if a candidate's examination in Latin should be subdivided into six parts, and if he should secure excellent ratings in five of them, almost any institution would forgive him a rating in the sixth part which was slightly below the standard regularly required. Under the plan adopted by the board it is perfectly easy for an institution to exercise discretion in matters of this sort.

The secretary of the board has learned that a few teachers feel somewhat dissatisfied with the policy which has governed the board in its choice of supervisors. It is claimed that at some points it is impossible to find persons except among teachers who have prepared candidates for the examinations, whose experience qualifies them for the work of supervision, and whose interest in the welfare of the board is so great that they are willing to give their services to the board. On the other hand, it will probably be generally admitted that it would be unfair, if not unwise, to intrust the examinations of some candidates to their own teachers, perhaps to private tutors, while other candidates are required to take examinations supervised by strangers and held amid unfamiliar surroundings. It appears to the writer evident that in order to preserve dignity in the conduct of the examinations persons whose relations with the candidates are those of intimate friendship must not act as supervisors. In making arrangements for the examinations held this year persons professionally interested in secondary education, but whose work was chiefly administrative, were preferred for the work of supervision, and in many cases city superintendents, high-school principals, inspectors, secretaries, and other administrative officers offered to help the work of the board by serving as supervisors.

Co-operation of the Secondary Schools

The chief aim of the College Entrance Examination Board is to secure, by means of a co-operation between all those vitally interested, that uniformity of standards which is essential for the general systematic improvement of the conditions of secondary education. In this co-operation representatives both of colleges and of secondary schools must have part. The board recognizes that it would be quite as inappropriate for a body composed solely of college professors to decide by a vote questions affecting in an important way the curriculum of the secondary schools as it would be for a body of school-teachers independently to determine questions affecting the college curriculum. In every important problem that affects the relations between the college and the secondary school, the judgment of those who have achieved for themselves eminence in the world of secondary education is at least of equal importance with the judgment of those who have attained similar distinction in the college world. In recognition of these facts secondary-school teachers have been associated with the work of the board at every stage. They are members of the board itself, they serve upon the committees of examiners and upon the committees of readers. Their criticisms and suggestions are invited in regard to every part of the work, and receive consideration equally with the suggestions and criticisms that come from the representatives of the colleges. There are indications that the secondary-school teachers in no community thruout the country have failed to recognize the importance of the work that has been undertaken by the board, and it would not be surprising to the writer if it should turn out eventually that the general acceptance of the principles and of the standards for which the board stands will be due even more to the influence of secondary schools than to that of colleges.

Conclusion

The operations of the last twelve months, as described in the preceding report, make it evident that the work of the College Entrance Examination Board is progressing with long strides. The number of institutions that have assumed an immediate responsibility for the work of the board has increased from 15 to 22. The very small number of institutions not accepting the board's examinations has diminished. The number of candidates attending the examinations has increased greatly; outside of New York, it has doubled. These and other phenomena, however, that may be shown by statistical tables, do not at all measure the growth of the board's influence and the increasing influence of the principles upon which its work is based. In every part of the country the work of the board has excited deep interest, and it is exerting an elevating influence upon the standards, not only of secondary, but also of collegiate instruction.

Respectfully submitted,

THOMAS S. FISKE, *Secretary*

September 1, 1902

V

DISCUSSIONS

CORRELATION OF ALGEBRA, GEOMETRY, AND PHYSICS

Two years ago, influenced by the report of the Chicago section of the American Mathematical Society, urging the simultaneous teaching of algebra and geometry, the high school at Lincoln, Neb., undertook the experiment of following the suggestion and introduced a course in mathematics, in which the two subjects were begun at the same time by pupils of the incoming classes. As many schools, likewise favorably impressed with the theory of the committee, are attempting to make a practical application, while other schools interested are waiting to see the outcome of the experiment before departing from a time-honored tradition, a report on results obtained in Lincoln will not be out of place at this time.

This school has gone farther than the correlation of algebra and geometry; it has introduced a large amount of science—physics and physical geography—for the sake of a broader concrete basis for the algebra and more interesting application of the geometry. In order that a clear understanding may be had of the feasibility of this plan, it will be necessary to describe another branch of the course of study. One of the required subjects for the first-year student is a course in what is termed "Elementary Science." It consists chiefly of recitation and laboratory experiments in the common elementary physical laws with which the child comes in daily contact. The study excites the keenest interest, and algebra based on this concrete notion of quantity, both positive and negative, has a life and meaning unattainable under the method of abstract—to the student meaningless—reasoning with symbols and rules. Indeed the clear comprehension of comparison of quantity which even the ninth-grade student acquires under the development of mathematics on a concrete basis is surprising. By means of material from the laboratory of actual measurement and weight, sustained by geometric intuitions of distances, areas, and angles, both positive and negative, algebraic principles are firmly fixed in the mind—the specific cases gradually giving way to symbols of general quantitative expression. For example, equation work is taught in connection with experiments on the balances. At first all problems leading to equations are taken from actual experiments made; then, as the pupil begins to feel the tediousness and uselessness of specific numbers of grams, decigrams, etc., in carrying out his thought, he is led to introduce general expressions—in fact, many pupils will attempt this without suggestion on the part of the teacher and write *w* for weight of some substance, or *c* for number of centigrams, etc., or *l* for length of lines, *a* for size of angles; while under the direction of the teacher a more thoro comprehension of general quantitative expression is obtained than can be obtained under any other method of presentation. Furthermore, by means of geometric relations of magnitude and by laboratory study of such laws as that of the lever and Boyle's law, the student reaches an understanding of ratio, both direct and inverse, clearer to a degree than is ever possible under the isolated teaching of algebra. Positive and negative quantities become a reality thru geometric and physical examples. Solution by rule is unnatural to this method of teaching and is strictly guarded against. Mathematical operations must be performed in harmony with laboratory operations. It is not practical to add up all the positive quantities and then all the negative and take the difference of the sums in a test of temperature—addition is performed naturally as the work proceeds.

Experiment leads the student to decide quickly the amount that must be added to one quantity in order to obtain another, so he does not change signs and add when he wishes to subtract. He has been led to the equation thru experiment with balances; he performs the operations of the reduction of the equation in the same manner as he performs the experiments with his balances; that is, having known and unknown quantities in each pan, he naturally takes an equal amount from each till he has only known in one pan and unknown in the other; so he sees the analogy and treats the equations likewise.

Thus thruout the entire first year the three studies, algebra, geometry, and physics, are kept together—the latter supplementing the former with concrete material, the former furnishing the solution of problems drawn from the experiments of the latter and leading to generalizations of results. The reasoning is similar if not the same in all, which fact is kept constantly before the student.

During the second year, when equation work is strongest, the geometry and physics furnish a body of material which can be utilized to create the greatest enthusiasm and interest in the subject. To add to this, the more elementary ideas of trigonometry are introduced in connection with ratio and proportion and similar triangles, thus opening up another line of practical applications.

The objection has been offered to this plan of teaching mathematics that it will require too much time. This is not true. The mathematics is completed in less time than is required by other schools in the State, or than was formerly required in this school under the single-study method, while a far greater degree of thoroness and insight into the subject is obtained.

The truth of this statement will easily impress itself upon anyone who stops to consider that, instead of being shot thru the algebra in a year and geometry in a year and a half, without any clear notion as to the use of either, the student spends in reality two and a half years on each. The principles are inculcated in such a way that they cannot be forgotten, while the application of mathematics to physics is clearly understood, and the knowledge of physical laws is utilized to stimulate the student in the pursuit of that branch of learning which alone embodies undisputable truth.

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NEW YORK CITY SCHOOLS AND THE POOR

In the otherwise admirable paper contributed to the September EDUCATIONAL REVIEW by Miss Lucia Stickney of Cleveland, O., I was astonished to find the following:

> The purpose of this paper is to show how much that goes by the name of charity and correction in America is made in London a part of the school system. Here [in America] the fresh-air fund, the vacation schools and playgrounds, the visits to the concert and museum are connected with some institution of religion or philanthropy. There the school is made the center and avenue of these benevolences, even tho they originated with some other organization.

Before comparing unfavorably the school activities of her own country with those of London, Miss Stickney might have familiarized herself with what the public schools are doing in many of the large cities of the United States. Her remarks may be true of Cleveland, O.; they are not true of Boston, of Newark, N. J.; of the City of New York, and of other cities I might mention. Take New York City, for example,—the American city that, in the size and character of its population, most closely resembles London,—are "the vacation schools and playgrounds, the visits to the concert and museum," connected solely "with some institution of religion or philanthropy"? By no means. Religious and philanthropic institutions do much noble work of this kind; but the burden falls chiefly on the Board of Education. During the summer of the present year the Board of Education expended $125,000 of the people's money on vacation schools and playgrounds in the poorer quarters of the city. The average daily attendance in these institutions exceeded 150,000. In the vacation schools were taught basketry, carpentry, leather work, sewing and dressmaking, millinery, crocheting and knitting, drawing and painting, embroidery, chair-caning, cooking, nursing, housekeeping, Venetian iron work, whittling, cardboard construction, fret-sawing, and other forms of manual training. In the evenings band concerts were given on the roof playgrounds of seven large public-school buildings. These concerts were so largely attended, not only by the children, but by the mothers, often with babies in their arms, from the tenement houses, that this feature of the work will doubtless be greatly extended in future years.

Nor does New York City confine her school philanthropy to the summer months. During the last fifteen years she has maintained free lectures and concerts in school buildings for adults. Last year these lectures and concerts were attended by over three-quarters of a million of people, chiefly fathers and mothers from the tenements. Nor is this all. Several school buildings are kept open in the evenings as play centers all the year round. Here children engage in gymnastics, or they play games or they are given books to read, or they have the use of rooms for debating societies or clubs, all under the charge of competent overseers. All this is in addition to the regular evening schools.

A comparison between the school system of London and that of New York would be interesting and instructive, were it made with the requisite knowledge and impartiality. But I must protest against the statement that many praiseworthy features of the London schools cannot be paralleled in America. Each city has its own problems to solve and each city is striving hard to solve them. I may, however, be permitted to say that the difficulties confronting the school authorities in New York are in some respects greater than those which confront the school authorities of London. These difficulties group themselves under two heads: First, the population of New York is increasing much more rapidly than is that of London; hence, the school authorities of the former city find it necessary to divert much more of their time and attention from purely educational work to the construction of new schoolhouses, than do those of the latter. In the second place, the influx of non-English-speaking immigrants into New York is much greater than the similar influx into London. This fact makes the educational conduct of the New York schools, where probably one-fourth of the pupils cannot speak English when they enter, much more difficult than the educational work of London. Even with these drawbacks, however, since New York pays higher salaries to her teachers than any other city in the world and is otherwise providing most liberally for her schools, there will be no one to blame but her school officers and teachers, if she should ever have occasion to fear comparison with London.

William H. Maxwell

City Superintendent of Schools,
The City of New York

VI

REVIEWS

Analytical psychology: A practical manual for colleges and normal schools—By LIGHTNER WITMER, Professor of Psychology in the University of Pennsylvania. New York: Ginn & Co., 1902. xxvi+251 p. $1.50.

At first glance, Professor Witmer's book seems to be an introduction to experimental psychology. It would serve such a purpose admirably, but it is more than that. The experiments are intended to furnish a basis for psychological analysis, to present concrete mental facts which the student can analyze for himself. The experiments are simple and easily performed. The author wishes by means of these to enable the student to discover the facts of psychology for himself and to become an independent observer. The experiments are arranged with a view to making this possible. The first is the well-known staircase "illusion," which is chosen to illustrate the fact that our "perceptions of external objects are determined by apperception as well as by sensation." Succeeding experiments show other ways in which perceptions may be modified, and the character and value of the contributing elements. This line of thought leads to the consideration of "attention," which is the subject of the next chapter. Association follows, succeeded by discussions of space perception, psycho-physiological analysis, psychophysical analysis, and sensation as a mental element. It is safe to say that Professor Witmer's *Psychology* is the most successful attempt yet made to apply the analytical method to the concrete facts of psychology. Step by step he leads us to separate our everyday perceptions into their constituent elements. In doing this, physiology and psycho-physics are to some extent included, but only so far as they are necessary to explain the most important psychological processes. The student will not be led to believe that he is studying a subject made up of fragments of physiology and physics. Besides the experiments on which discussions are directly based, there is a list of experiments all of which can be performed by the student without the need for constant supervision and without complicated apparatus. The order of chapters will show that Professor Witmer has kept in view the educational—that is to say, the psychological—order.

In scope, the manual is "restricted to the analysis of the component processes of mental phenomena." The teacher will wish that some topics had been discussed more fully. Memory and habit are treated only incidentally, and interest, feeling, impulse, instinct, reasoning, will, and the tendency of ideas to bring about movement are either omitted entirely or touched upon very briefly. A complete manual for colleges and normal schools should give these subjects more attention. The book, as it stands, while treating the subjects included most admirably, needs to be supplemented by lectures on these topics or by another text-book. On the other hand, æsthetics receives an amount of attention much in excess of that usually given in manuals of psychology.

There is perhaps a superfluity of technical terms, and Professor Witmer purposely avoids giving many definitions; this has the advantage, as the author argues, of leading the pupil to look for the thing and not the word, but, on the other hand, it may leave in his mind a very vague idea of what the thing is. He may be able to illustrate it without being very certain as to what is essential in the illustration.

Exception might be taken to the scope implied in his use of certain terms. Association, for example, is a caption under which are discussed phenomena of contrast in sensation, the blind spot, the field of vision, conception, reasoning, political, social, and ethical judgments. It is, no doubt, true that all these questions lead up to association, or center about it, but unless one is willing to commit himself to a thorogoing associationism he would be glad to see certain other constructive principles treated somewhat more fully. But on the whole the book is admirable, and its readers will hope that the subjects which it omits, or treats but briefly, may soon receive so successful and attractive an exposition.

Adam Leroy Jones

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The foundations of geometry—By DAVID HILBERT, professor of mathematics in the University of Göttingen. Authorized translation by E. J. Townsend, Ph. D., University of Illinois. Chicago: The Open Court Publishing Co., 1902. vii + 132 p. $1.00.

It is some three years since Hilbert's *Grundlagen der Geometrie* appeared in the *Festschrift zur Feier der Enthüllung des Gauss-Weber-Denkmals* in Göttingen. The attention of American teachers was soon after called to the great value of the work, thru the pages of the EDUCATIONAL REVIEW (vol. xix, No. 1, January, 1900, p. 92), and the grouping of the postulates was at that time explained. It is now a pleasure to welcome a translation, particularly so because it presents the theory in a form more complete than the original. In the French edition Hilbert made a number of noteworthy additions, and these have all been embodied in the present translation. For example to the five groups already set forth in this REVIEW is added the following "Axiom of Completeness: To a system of points, straight lines, and planes, it is impossible to add other elements in such a manner that the system thus generalized shall form a new geometry, obeying all of the five groups of axioms. In other words, the elements of geometry form a system which is not susceptible of extension, if we regard the five groups of axioms as valid."

For the teacher of geometry the work is invaluable. It gives the modern point of view of the fundamental postulates of the science, and places the Euclidean, non-Euclidean, and non-Archimedean geometries in their proper perspective. The time is rapidly passing when high-school teachers can afford to be ignorant of these important theories, and there is no better book than this in which to begin the study. The translation is exceptionally well made, avoiding those vagaries of English that often mar such attempts, and the letterpress and figures are up to the usual high standard maintained by the publishers.

It should be noted, in passing, that Mr. R. L. Moore has recently given (*American mathematical monthly,* vol. ix, p. 100) a proof of Hilbert's axiom of arrangement, but it appeared too late to allow of its consideration in this work.

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VII

NOTES AND NEWS

The London "Times" on American Education

The publication, by Dr. Sadler's bureau of special inquiries and reports, of a volume on education in the United States has led to a number of expressions of editorial opinion in England on the subject of the schools of the United States. The most valuable of these and the most detached, so to speak, seems to us to be that of the London *Times*, which we are glad to reproduce here.

In education, as in other departments of human life, America is the land of experiment, of enterprise, and of progress untrammeled by past traditions. Her people are keenly alive to the value of education; her wealthy men are forward in promoting it to a degree which puts ours to shame; improvements are effected, and experiments tried, with a rapidity and a decision that take away the breath of those accustomed, as we are in England, to long hesitation about changes and reluctant departure from traditional methods. Within the past twenty-five years there has been a movement in the United States toward intellectual and educational independence, no longer trusting to ideas and systems borrowed from the old world, but striking out new conceptions of an education that shall fit the conditions of American life and harmonize with the ideals of American citizenship.

All this gives great interest to the study of their institutions; and our own Board of Education, whose series of special reports upon the educational features of this and other countries has done much to open the eyes of Englishmen, now provides facilities hitherto inaccessible on this side of the Atlantic for such a study, by the addition of two new volumes of reports upon American education. The interest and importance of the study are suggestively brought out in an introductory chapter by Sir Joshua Fitch, from which, as also from a paper in the second of the two volumes by Mr. M. E. Sadler, on the contrast between German and American ideals in education, no one can rise without feeling that his ideals have been enlarged, and that there are more things than have hitherto been dreamed of in the somewhat narrow philosophy of English educational science. On the North American continent, Sir Joshua reminds us, there will before long be one hundred millions of English-speaking people, nurtured on our history and our literature, yet emancipated from feudal and aristocratic influences, and free to develop new forms of excellence, and, tho it be true, as Mr. Sadler points out, that a national system of education is the outcome of national history, and that what suits one people may not suit another, the development of education under the conditions of this free and vigorous life among our own kindred must have lessons for us. If the future of the world is with the English-speaking races, what is to be their training for it?

Strictly, there is in the United States no one national system of education. America is a confederation of self-governing States, each retaining all the prerogatives and powers of a sovereign state that are not expressly relegated to the Federal Government by the terms of the Constitution. Among the public interests that belong exclusively to the separate States is that of education. There is, indeed, a Bureau of Education at Washington, which collects statistics and makes reports, and exercises great moral weight; but it has no statutory authority to establish, inspect, or subsidize schools, nor does it in any sense correspond to a European board or department of public instruction. Each State devises and regulates its own system, and there is no uniformity of either methods or machinery. But, under all this diversity, there is an essential unity of belief in democratic education, of desire to make it generally accessible, and of determination to keep up its quality. Hence, says Sir Joshua Fitch, "America may be regarded as a laboratory in which educational experiments are being tried on a great scale, under conditions exceptionally favorable to the encouragement of inventiveness and fresh enthusiasm, and to the discovery of new methods and new truths."

The first grand condition which makes all this life and movement possible is popular enthusiasm, the belief of the democracy in its schools and of the schools in the democracy. In that lies a driving power which is as yet wanting in England, and is less effective, probably, in countries where educational improvement has always come from a central government. In Germany, for example, the masses of the people have little to do with educational policy; in America nearly all education rests on popular control. Administrative order in the one country, free discussion in the other, determines educational progress. The mere statement of this difference is enough to show that we, in our educational difficulties, may have more to learn across the Atlantic than on the continent of Europe, for educational progress in England already is, and will be more and more, in the direction of popular control.

What we know as "educational politics"—questions, for instance, of the relation of public authorities to teachers and managers, or of the administrative conditions of state aid and control—appear less prominent in America. Nor is there found there any such distribution of parties as in England so profoundly, and sometimes unfortunately, affects educational discussion. There are no venerable institutions, no social or ecclesiastical privileges, to modify or to conserve. The whole American nation is a party of progress, with divergent views of what progress means, and educational progress has, under such conditions, a better chance of being considered on its own merits, and not, as so often here, upon considerations that have little or nothing to do with education. Educational reformers are freer there than here to go ahead at full speed.

Perhaps the most far-reaching difference between the United States and ourselves, or some other countries in Europe, is that the question of religious teaching does not come in. Whatever view we may take of a purely secular system, there is no doubt that it vastly simplifies educational problems by removing them from a sphere of thought in which men differ most widely and most deeply, and which, when brought to the front in educational discussions, tend to override all other considerations. In England the "religious difficulty" has for a century past vitally affected, and sometimes grievously hindered, national education, while at the present moment it is jeopardizing well-intentioned and much needed reforms. In French it has produced a crop of chronic bitterness. But in America we gather that it finds no place. Theological instruction in any form is absent from the common schools; the co-operation of the churches is not sought for, and the ministers of religion, as such, have no part in the control of the schools.

This, says Sir Joshua Fitch, indicates a general conviction that "in a community in which thought and religious profession are absolutely unfettered, and in which there is no established church, and no one ecclesiastical body entitled to claim special privilege or social superiority, the State should keep itself severely detached from all religious parties and controversies, and should afford in the common school no facility whatever for denominational teaching." This is perhaps logical, and in America possible; in England it is at present impracticable, and surely undesirable. Some stress is laid in these volumes on moral education in American schools. But whether, or to what extent, morality can really be taught without a religious basis is not so clear. That even in America there are misgivings on this head appears from the fact that in some States there are a good many schools "representing outright the religious idea," and generally attached to one or other of the religious denominations. In New York city and State, too, there are preparatory or private schools representing a movement in protest against the merely intellectual character of the public schools. There is, we suspect, a tinge of optimism in the reports of the working of a purely secular education. It is logical and symmetrical; but it ignores one of the most powerful motive forces in men's nature, their religious feeling. In spite of all our troubles over the "religious difficulty," we should be sorry to substitute for it the barren peace of mere secularism.

A Coming Problem

In our opinion, often expressed, the closing sentences of this editorial point to a deep-lying and far-reaching problem in our educational system, of which we shall hear a great deal in the next twenty years. The truce of the sects, by the terms of which a knowledge of the English Bible even as a literary work is rapidly passing, will not last undisturbed much longer. The sacrifice is too great. At this time we shall content ourselves with printing three very significant resolutions bearing on one or another phase of this subject passed—in each case unanimously, we believe—by those different representative assemblages, meeting at widely separated points and under wholly different auspices, during the past summer.

From the Declaration of Principles of the National Educational Association, adopted at Minneapolis, Minn., July 11, 1902:

> It is apparent that familiarity with the English Bible as a masterpiece of literature is rapidly decreasing among the pupils in our schools. This is the direct result of a conception which regards the Bible as a theological book merely, and thereby leads to its exclusion from the schools of some States as a subject of reading and study.
>
> We hope and ask for such a change of public sentiment in this regard as will permit and encourage the English Bible, now honored by name in many school, laws, and State institutions, to be read and studied as a literary work of the highest and purest type, side by side with the poetry and prose which it has inspired and in large part formed.

From the Declaration of Principles by the teachers (about seventeen hundred) at the Summer School of the South, adopted at Knoxville, Tenn., July, 1902:

> Conscious of our dependence upon the God of our fathers, and believing that the highest and truest civilization can be attained only by following the precepts of the great teacher, Jesus Christ, we favor the recognition of the Bible in our public schools.

From the Resolutions of the Tenth International Sunday School Convention, adopted at Denver, Col., June 30, 1902:

> *Whereas*, The Bible is not only the inspired word of God, but also the world's greatest treasury of literature, and its reading is now excluded from most of the public schools of America,
>
> *Resolved*, That the Executive Committee is instructed to appoint a Standing Committee, whose duty it shall be to consider what means should be taken in the various States and provinces to secure the reading of the Bible, without comment, in the public schools of our land.

Education and Industry

In his presidential address before the annual meeting of the Society of Chemical Industry at University College, Liverpool, Mr. Ivan Levinstein of Manchester discussed the influence of education and legislation upon trade and industry. He pointed out that Great Britain had already lost the premier position in the world as manufacturing country to the United States, and that is was now struggling to maintain the second position in face of the increasing rivalry of Germany. He attributed Germany's advance in industry and commerce to (1) superior economy and attention to detail; (2) the possession of more trained brains than any other country; (3) a close alliance between legislation and science on the one hand and industry and trade on the other; (4) a national system of railways and canals, with internal and external freight charges averaging less than one-third of our own; (5) cheaper skilled labor, with longer hours than our own; (6) a large supply of unskilled laborers trained to habits of punctuality and discipline by military service; (7) protective tariffs; and (8) patent-law system protecting the interests of the public as well as those of the inventor.

Mr. Levinstein took a sound position, and one not ordinarily held in Europe, when he urged that, so far as education was concerned, as a factor in the economic problem, the burning question for trade and industry was neither the question of primary education, which was fairly satisfactory, nor that of higher technical or commercial education, but the question of efficient non-specialized secondary education.

A great deal of discussion has been indulged in during the past few years as to the German policy of encouraging commercial education. Recently the Zwickau chamber of commerce asked for reports from the 145 bodies of this character thruout the whole of the German Empire. The United States consular agent at Eibenstock has just transmitted a very full report, covering the details from each of the cities or towns which has a chamber of commerce. Of the total number of these bodies, 112 are actively engaged in promoting commercial education. The inactivity of the remainder is due, for the most part, to the fact that they have only recently been established, or that commercial education in their districts is maintained by other bodies known as merchant unions or by municipal governments. The statistics for 1901 show that 22 chambers of commerce gave $15,652 in cash to 44 commercial schools, which work entirely under their own management. Six chambers paid one-third of the deficits in 12 commercial schools with independent management; the amounts are not stated. Forty-eight chambers of commerce voted the sum of $13,030 to 102 commercial schools, which were more or less controlled by these chambers. Eight chambers of commerce paid part of the deficits of 18 commercial schools, which were partially under their management. Twenty-four chambers of commerce gave small sums to 31 commercial schools for the purpose of buying prizes, books, etc. Four chambers devoted $1697 to independent lectures on commerce and industry. Further, it appears that 12 chambers of commerce give prizes in the shape of books, money, or stipends; in 24 the members take part in the examination; in 6 districts the secretary of the chamber makes tours of inspection among the schools; 63 chambers have members on the school board of directors; 8 have arranged lectures for clerks and others holding minor positions in business houses; 3 have arranged for teachers' conferences; one has appointed a commission to examine all important school subjects; and another has established an industrial exhibition. The consul says that this sketch of the work of German chambers of commerce in commercial education cannot be looked upon as exhausting the subject. He is informed by German merchants and manufacturers that they are only beginning to take an interest in the matter of education. He states, as an example, that 8 chambers of commerce are at present busy with reorganizing and extending the commercial schools in their districts; 13 are agitating in favor of such schools; 6 have declared their willingness to give pecuniary assistance to the schools in their districts, if certain conditions are complied with; 6 are contemplating assuming the management of the schools in their districts; and several wish to appoint directors at the chamber's expense to introduce lectures, establish libraries, and grant prizes. The consul's conclusion is that Germany pays almost as much attention to trade education as she does to any other branch of instruction.

Instruction in so-called Temperance Physiology

The Educational Review for June last printed in full the preliminary report on school instruction in the effects of stimulants and narcotics submitted a few weeks previously to the New York State Science Teachers' Association by a committee of that body. We are now in receipt of a long reply to that report issued by the New York State Central Committee for Scientific Temperance Instruction. It should be obtained and read by all who are truly interested in the question which it discusses. For ourselves, we are so completely out of sympathy with the so-called scientific temperance movement and so weary of the reiteration by its representatives of dogmas which are at most matters of opinion, that we are not entirely an unbiased judge of the value of this reply. The notion that the use of alcohol is immoral is to us perfectly incomprehensible, in the strictest sense of the term.

The Summer-School of the South

One of the most gratifying and satisfactory of recent events has been the unqualified success of the first session of the Summer School of the South, held at Knoxville, Tenn., under the auspices of the Southern Education Board. President Dabney of the University of Tennessee and Mr. P. P. Claxton, formerly of Greensboro, N. C., were the men upon whose shoulders fell the task of organization and direction, and they are to be heartily congratulated upon the result. The total registration was 2019, including 687 men and 1332 women.

Of the number enrolled about 1500 were teachers in actual service. Twenty-nine States were represented. Tennessee sent 1003, Georgia 248, Alabama 180, North Carolina 169, Mississippi 109, South Carolina 50, Texas 29, and Virginia 22. The splendid success of this undertaking shows that the new educational movement in the Southern States is under full headway.

The Washington Schools Again

The Boston *Advertiser* has published several articles charging that ground for a serious scandal exists in connection with the public schools of Washington, D. C. Under date of August 2, General H. V. Boynton, president of the Washington board of school commissioners, wrote to the *Advertiser* a letter which appears to admit the truth of the newspaper's allegations and to hold that it is incumbent upon the Commissioners of the District of Columbia to make a searching investigation. General Boynton forcibly adds that he disclaims "any desire or purpose to tolerate, excuse, or condone such conditions as the *Advertiser* alleges to exist."

Since the success of the intrigue which displaced Superintendent Powell and threw the Washington schools, then among the very best in the country, into chaos, well-informed observers have been prepared for anything. When a little group of self-seeking politicians, newspaper men, and committee clerks can overturn the school system of a great city for purely personal reasons, there is something radically wrong somewhere. Dr. Francis R. Lane, who leaves Washington for the Brooklyn Polytechnic Institute after years of successful service, gives as one of his reasons for the change, the utterly unsatisfactory character of the present school conditions in Washington.

Mr. John Adams, formerly rector of the United Free Church Training College at Glasgow, and lecturer on education in the University of Glasgow, has been appointed to the professorship of education in the University of London.

Mr. John Edgar, a classical teacher in the Royal High School at Edinburgh, has been chosen to succeed Professor Meiklejohn in the chair of education in the University of St. Andrews.

The newspaper reports of the Commencement season of 1902 contained the following instances of the conferring of the degree of Ph. D., *honoris causa:*

Muhlenberg College, Pa.	Julius F. Sachse of Philadelphia
Villanova College, Pa.	Rev. William J. Hill of Brooklyn Justice Morgan J. O'Brien of New York
Providence University (location unknown)	Rev. W. J. McMillin, Lewisburg, Tenn.

EDUCATIONAL REVIEW

NOVEMBER, 1902

I

TWO YEARS' PROGRESS IN THE CHICAGO PUBLIC SCHOOLS

For three years past the eyes of the educational world have been upon Chicago. The second city in the Union, with nearly six thousand teachers and twenty-one members of the school board, with a public-school administration permeated by political pull and demoralized by diffusion of responsibility, has been making rapid strides toward twentieth-century ideals in school management. It is doubtful indeed if any city on the continent has made such marked progress in two years toward the realization of those aims that are regarded by advanced educators as essential to efficient school administration, and to the attainment of the highest standards in popular education.

This progress has been made without any change in the municipal machinery by which the schools are maintained. No change in the city charter was necessary to inaugurate the reforms by which the teaching corps was placed beyond the reach of the politicians and greater authority and responsibility centered in the superintendent of schools. If Chicago followed the trend of educational progress and desired to completely divorce its schools from politics it would fall in line with Indianapolis, in reducing the school-board membership to a compact, businesslike body, elected by the people instead of appointed by the Mayor, and responsible only to the electorate for the proper and intelligent discharge of the important duties intrusted to it.

The strides that have been made in the Chicago schools have been made in spite of this archaic system. Realizing the futility of attempting to change the system under which the school board was responsible only to the City Hall, Mr. Edwin G. Cooley, the present superintendent, who was elected in June, 1900, immediately set about, thru the exercise of that unusual tact and administrative diplomacy which originally suggested him for the place, bringing systematic order out of chaos and co-ordinating the entire system on a plan that recognized but one responsible executive head in the educational affairs of the schools and yet contemplated the assent of the board to every recommendation for appointment. It is not known whether Superintendent Cooley favors a large board or a small board of trustees, an elective or an appointive board. Seeing the failure of a rather formidable civic organization to impress the legislature with the necessity for changing the plan of administration, he did not stop to discuss this phase of the school question, but entered quickly and energetically upon the task of persuading the board to recognize the inefficiency of the old system and the necessity for relieving the superintendent of embarrassment in the selection and appointment of teachers thru the personal solicitation and influence of board members and politicians.

Strange to say, the new superintendent found the board more hospitable toward his ideas than he had reason to expect. Instead of twenty-one rebellious trustees, insistent upon the privileges which they had apparently acquired thru years of administration in which politics was allowed to dominate in school affairs, he found a board quite receptive and responsive, ready to acquiesce in every measure he advanced for the betterment of the school system.

How much of this disposition to yield to the recommendations of the superintendent was due to the pressure of the press and public sentiment, is not for me to decide. Suffice it to say the superintendent did not encounter as much opposition as he had been led to fear thru the experiences of his predecessors. Being an old schoolmaster as well as an administrative strategist, he had no rainbow theories about school boards. He knew that a board of twenty-one members, appointed by a mayor largely to accommodate certain geographical, racial, and political considerations, could have no great veneration for educational theories, nor could it be expected to regard the superintendent as an infallible autocrat in school affairs. A board deriving its powers from the City Hall is naturally jealous of its prerogatives and its importance. It would not sit supinely by while a new superintendent of the vertebrate order quietly arrogated all its powers to himself. Mr. Cooley had no desire to usurp the administrative functions of the board. He was willing to divide responsibility with the board, but he took the sound and tenable position that the initiative in all matters pertaining to the purely educational affairs of the schools should rest with the superintendent. Any other position was fundamentally incompatible with efficient school management.

Like a tactful leader Mr. Cooley, therefore, began his remarkable campaign for reorganization in committee meetings. He took no fight into the open board until it had been won before the committee having the matter in charge. In this way he saved himself endless embarrassment, avoided the humiliations suffered by his predecessors, and deprived the reporters of the Chicago press of much material for imaginative story-writing. The contests in committee meetings have not been without warm discussion and spirited debate, but having won in committee meeting Mr. Cooley, like a sagacious school manager, made it his business quietly to assure favorable action on the committee's report. By adhering to this policy of personal contact with board members and dealing with them in perfect candor as man to man, Mr. Cooley has managed to enjoy the distinction of having won out on every proposition he has thus far submitted to the board.

The movement to relieve the superintendent from all improper influence in the selection of the teaching corps was begun in July, 1900, by the introduction of the "Dawes resolution," by Chester M. Dawes, which provided for the appointment of teachers on the basis of merit by the superintendent, without the intervention of board members or other persons. The measure was debated at much length, but it was vigorously pressed by Mr. Dawes until, in an amended form, it was finally adopted in November, 1900.

Following this opening wedge came the reorganization of the board itself upon simpler lines, whereby fourteen committees were abolished and four committees appointed to take their place as follows: committee on school management, committee on buildings and grounds, committee on finance, and committee on compulsory education.

This was the most important and far-reaching reform of the year, in that it did away with the "district committees" to which had been delegated the work of recommending teachers for the various districts, and thru which a vast amount of political and social influence had been exerted. These district committees, in fact, had been the convenient and easy channels thru which political "pull" had crept into and finally ramified thruout the entire school system.

A subsequent action of the board of great significance and effect came when, on May 1, 1901, more than two months in advance of the regular time, Superintendent Cooley was elected for the ensuing school year of 1901-1902, the purpose being to further relieve the superintendent from many of the influences detrimental to the best interests of the schools in making his recommendations concerning elections of teachers and adoption of text-books.

In order to further relieve the superintendent of improper influence and to enable him to plan and execute, with a reasonable hope of being able to effect within his term of office such changes as seemed beneficial to the schools, a policy of reorganization of the schools, and to bring Chicago to the rank of other large cities in the country in the matters of educational policy, the term of the superintendent was made five years, and Superintendent Cooley was elected November 27, 1901, for the five years beginning January 1, 1902.

A number of changes have been made in the organization and the work of the normal school for the purpose of enlarging its usefulness, bringing it into closer relationship with the schools of the city, and securing better results in the training of teachers to be employed in the schools. On June 27, 1900, Dr. Arnold Tompkins was elected principal of the normal school. On June 13, 1900, the board authorized the physical examination of candidates for entrance to the normal school, and appointed a board of physicians to conduct such examinations. Physical fitness has been required of all students entering the normal school subsequent to that time.

On October 3, 1901, the board directed that teachers in the normal school should be selected thru a careful and personal examination of candidates by the superintendent of schools and the principal of the normal school, and observation of the candidate at his work, together with such oral and written test as may be desired to ascertain the qualifications of the candidates.

Other important changes in the normal school recommended by the superintendent and adopted by the board were, the dismissal of normal-school students who were reported by the faculty as failures after one year's attendance, and the limiting of the number of students to be admitted to the normal school each year to 250, selected from those candidates attaining the highest averages in examination. An average of seventy-five per cent. in examinations and the passing of a physical examination were fixed as requirements for all candidates admitted to the normal school.

The superintendent was authorized to employ the heads of departments in the Chicago Normal School not to exceed two months of the school year in holding institutes, preparing outlines of work and circulars of information for the benefit and use of the teachers in the elementary schools, for the purpose of unifying and co-ordinating the work of the normal school and the elementary schools. The superintendent was also authorized to employ the teachers of music and drawing in co-operation with the heads of these respective departments in the normal school, subject to his general direction.

A further recommendation by the superintendent, providing for the addition of a third year to the course in the normal school, was adopted. The work of the additional year provides for the broadening and deepening of the work in the academic branches and gives an opportunity to students to specialize in any of the various departments. The third year is optional with those entering before the passage of the measure, but obligatory upon those entering after its adoption. Of greatest interest to those concerned with movements affecting educational progress are the changes that have been inaugurated in the methods of selecting and promoting teachers and in ascertaining their fitness for the work.

On February 6, 1901, the board required of persons holding certificates to teach in the schools a substitute service of four months before being assigned as teachers. Under the same date there was introduced an inquiry from the superintendent concerning the interpretation of the rule affecting the validity of teachers' certificates. The question was before the board or its committees until April 3, 1901, when the rule was passed by the board invalidating certificates after a lapse of three years unless the holder had meantime been a regular teacher in Chicago schools or others of equal grade, or a regularly matriculated student in some reputable institution of higher learning.

The board also adopted the recommendation of the superintendent providing for the appointment of five experienced substitute teachers in each district, and the preparation of a list of eligible substitute teachers in accordance with their rank in examination, from which list vacancies in the district substitute positions should be filled in order of rank on the eligible list. This rule provided that if, after two months' service, a substitute teacher were reported unsatisfactory, she should be dismissed from the service, and if satisfactory, continued until the end of the year or until assigned regularly.

A recommendation limiting the number of assignments of cadets to positions to 250, and requiring them to be assigned in the order of their standing on the list, was adopted. A satisfactory service of two months is required before they can be assigned as teachers. If reported unsatisfactory after two months' trial, a like trial for two months will be given in some other school. If unsatisfactory in their service a second time, they shall be reported for dismissal. A satisfactory report by a principal is taken to indicate a willingness on his part to have the cadet reported on assigned to his school.

On June 26, 1901, a resolution was adopted by the board authorizing the superintendent to notify principals, teachers, or cadets whose service is unsatisfactory in the schools that, if after four months' trial sufficient improvement is not made by them, they shall be dropped by the superintendent, which action should be final unless reversed by the Board of Education within one month of the time when the dismissal is reported by the superintendent. The subsequent election of principals, teachers, and cadets was made subject to the provisions of this recommendation.

On July 10, 1901, a change was made in the rule granting permanent certificates to teachers after three years of trial. Under the terms of the rule adopted temporary certificates issued to teachers and cadets passing examinations for elementary schools shall expire at the end of one year unless renewed by the superintendent. The superintendent is authorized to renew temporary certificates at the end of the second and third years if the experience of the holders warrants it and the candidates have met the requirements. Unless certificates are renewed the holders shall not be permitted to serve in the schools as teachers. More important than all these was the recommendation presented by the superintendent and adopted by the board, providing for a more consistent salary schedule based upon advancement made by principals and teachers along academic and professional lines as determined by annual examination. This rule provides for aiding elementary teachers to advance to the first group whose efficiency marks and years of service meet the requirements for admission to that group, by the organization of classes to be conducted by the principal and faculty of the normal school at times and places to be agreed upon.

A carefully drawn scheme for requirements for admission of candidates to examinations for the various kinds of certificates awarded by the Board of Education, and a statement of the subjects to be written upon by the candidates, were recommended by the superintendent as the standard requirements for the examinations in future in the city, altho no examinations for most of the certificates are to be held this year. This report was adopted on May 28, 1902. The examinations during the past two years have been conducted by a board of examiners appointed by the superintendent under authority of the Board of Education. This examining board has a membership of twelve superintendents, principals, and teachers, who assist in holding examinations, marking papers, and assisting at a public revision which is offered to candidates who file written protest against marks made on their papers.

An event that provoked much discussion and controversy last year was the appropriation by the board of $100,000 for the purpose of providing text-books for the use of children whose parents were unable to pay for them. The German Catholic organizations of the city protested against the use of money to such an extent for the distribution of free text-books, and succeeded in securing from the court an injunction restraining the board from purchasing and distributing the books. The books ordered purchased and sent to the schools under previous direction of the board were recalled from the schools and held subject to requisition for fund books in the regular way. A modified order was subsequently entered permitting the board to purchase and loan books to pupils whose parents were unable to purchase them.

Mr. Cooley is a believer in and an advocate of free textbooks, and it is probable that an effort will be made this winter to secure State legislation that will remove all question as to the right of the board to purchase and distribute free textbooks.

In the work of simplifying the organization of the schools marked and gratifying progress has been made. The first move in this direction was the abolition of the position of assistant superintendent of high schools when the board failed to re-elect Dr. A. F. Nightingale to that position, the abolition of the positions of assistant supervisors of drawing and music, and the reduction of the district superintendents from fourteen to six. In response to an order of the board Superintendent Cooley presented the names of six district superintendents and recommended that they be retained, a recommendation that was promptly approved by the board. They were: Edward C. Delano, Albert G. Lane, Charles D. Lowry, William C. Dodge, Ella C. Sullivan, and Alfred Kirk. In line with this policy of simplification the school management committee, on recommendation of the superintendent, reported last June in favor of the abolishment of the position of supervisor of modern languages, a position that had been created as a concession to the German-American patrons of the schools, but which has been rendered unnecessary by the adoption in January last of the departmental plan of teaching German. On this proposition the superintendent met with the first serious opposition he had encountered, the most of it arising from a misapprehension concerning his attitude toward the teaching of German in the schools, and concerning the real scope and intent of the recommendation. So great was the misapprehension and so unreasonable was the opposition that Mr. Cooley was finally induced to make a public statement of his position in the matter, which he did as follows:

> For many years the subject of German in the elementary schools has been a source of disturbance and a great expense. In 1893 the Board of Education gave up the teaching of German in the first four grades, but continued it in the fifth, sixth, seventh, and eighth grades. The arrangement was to employ special teachers of German, who gave their instruction in special rooms set apart for that purpose and were supervised and looked after almost completely by a supervisor of modern languages.
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> The results have been anything but satisfactory. The pupils who did the work in German in the four upper grammar grades have been unable, as a rule, to make anything like a satisfactory showing upon entering the high school. It is a matter of almost universal comment that the work has been unsatisfactory to all concerned, both on account of the money involved and the character of the work done.
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> The separation of the work in German from the other work in the grades has been a source of some friction between the principal and elementary teachers and the supervisor of modern languages. The principal of the school has, in many cases, felt that he was not in any way responsible for the character or the amount of the work done in the German classes. The teachers have usually been put in without any special reference to the wishes of the principal. The arrangement has not tended toward uniform methods of management and control of the work of the schools, and it was so unsatisfactory that the board recently decided to change its plan of handling instruction in German.

The board has now adopted what is called the "departmental method" of teaching the subject. German will be put upon the same footing as any other study in the four upper grammar grades in the elementary schools. It will have its due proportion of the time of the teacher, and the principal of the school will be held responsible for it the same as he is held responsible for any other work in the school. In every school there will be one or more teachers who have taken an examination in German, as well as in the other studies required of elementary teachers, who will teach not more than four classes per day in the German language. The remainder of the day they will spend in the care of their own rooms, teaching other subjects. It is not deemed wise to have teachers in the elementary schools absent from their rooms more than half the time. A sufficient number of teachers who can teach German will be employed to carry out this plan.

It is believed by those who are acquainted with our school system that under this arrangement almost the entire expense of about $100,000 for the special teaching of German will be avoided. It is also the belief of many of the supervising force, as well as of the superintendent, that the work in German will be done far better than it has ever been done before. The principal of the school will be compelled to see to it that this work is done in a satisfactory manner, or he will suffer in reputation. Every effort will be made by the superintendent to give to German the same kind and amount of support that is given to any other study. This is all that the friends of German can demand with any show of fairness.

It will be readily seen that under this arrangement there will be no special use in employing a supervisor of modern languages. His presence will only disturb the present plan. As long as such a supervisor is employed, whose office is supposed to be to take special care of, nurse, and look out for his special subject, it will be impossible to fix responsibility for satisfactory work in this subject upon the principal of the school. As long as such an arrangement continues German will continue to be a topic for discussion and the occasion of disturbance. The best interests of the schools generally, as well as German in particular, will be best conserved by placing instruction in German in the hands of the regular supervising force.

It should not be forgotten that under the present plan of using the heads of departments in the normal school, two months of the year will be spent by them in the actual visitation of the work of their special departments in the elementary schools. Miss Therese Torgatsch, recently elected to look after the German in the normal school, will be at our disposal and can give any assistance that will be necessary to the superintendent's office in looking after instruction in German.

Notwithstanding the misguided and misdirected opposition to the measure, and the pressure which it was reported had been brought to bear at the City Hall by politicians who imagined they were acting in the interest of German-Americans, the position of supervisor of modern languages was made vacant by a little parliamentary strategy which consisted in laying the whole matter of electing a successor to the present incumbent on the table, from which it can only be taken by a two-thirds vote.

The next serious contest, in which an effort was made to put the superintendent in an attitude of hostility toward kindergartens as an elemental part of the school system, occurred when the discontinuance of the eighty-nine public kindergartens at the close of the last school year was ordered by the board upon the recommendation of the committee on finance. Retrenchments had already been made in nearly all departments of the schools, notably in the high schools, to accommodate a deficiency in school revenues. The superintendent vigorously opposed any further crippling of the high schools in order to maintain the kindergartens, which, as a matter of fact, had never got beyond the experimental stage in Chicago, and which had been conducted largely as an independent enterprise without direct supervision, either by the board or district superintendents. As the discontinuance of the kindergarten was to be only temporary, Mr. Cooley took the position that when they were reopened they must be in the poorer districts of the city, that they must be co-ordinated with the school system, brought under direct supervision, and organized upon a basis of harmonious adjustment to the primary grades. In the meantime public meetings were held and great efforts were made to arouse public sentiment to "save the kindergartens." Mothers were appealed to and the newspapers were enlisted to some extent in the work of resisting the "assault upon the kindergartens." The position of the superintendent was misrepresented, and many persons gained the impression that he was an enemy of the free public kindergarten. As a matter of fact, he had in the previous January recommended the establishment of ten additional kindergartens and had located them in the poorer districts of the city, but the board had failed to provide the funds for opening them. The superintendent steadfastly stood his ground in spite of the efforts to put him in a false attitude, and his position was sustained by the board. By a subsequent decision of the courts by which certain

Chicago corporations were compelled to pay back taxes, adequate funds became available for this purpose, and the board, on July 9, appropriated $50,000 for kindergartens, and the recommendation of the superintendent was approved for the maintenance of seventy kindergartens in the schools where they were provided last year, and for the establishment of kindergartens in nineteen additional schools located in the poorer districts. The recommendation of the superintendent also provided for the maintenance of the kindergartens in both morning and afternoon sessions, thus doubling the number of children previously cared for in this department, and required that children between the ages of five and six be provided accommodations before those between four and five. A further recommendation provided that the salaries of kindergarten teachers be paid upon the basis of the schedule provided for teachers in other departments of elementary schools.

The events of the present school year up to this writing give gratifying indication of a disposition on the part of the board to support Superintendent Cooley in the continuance of the policy inaugurated by him two years ago. The most notable change that marked the opening of the new school year was the order by which the "district superintendents" became "assistant superintendents." While they are assigned to certain districts of the city they are subject to the direction of the superintendent and may be sent by him to any school or district to investigate and make report. The superintendent, in fact, has authority to send the entire force of assistants into one district. The importance and significance of this change will be readily appreciated by school men. As an incident in the program of unification of the entire system and greater centralization of authority and responsibility it is worthy of special note. This, together with further progress already made in the extension of the merit system in the appointment and promotion of teachers, augurs gratifying success for Mr. Cooley's third year in the Chicago schools.

When the position of Superintendent of the Chicago Schools was offered to Mr. Cooley, he said to the writer, "I will go in as an educator, and not as a politician." So far as the system of administration now in force in Chicago would permit him he has consistently adhered to that determination. He assumed the position with well-defined purposes and plans for the complete re-organization and co-ordination of the entire school system. But of what use are the most exalted purposes and plans without the ability to carry them out? Mr. Cooley is a practical man. He is not a dreamer of educational dreams. He made up his mind that all antagonism between the board and the executive head of the school system must be removed. The board must be won over to the proposition that it would suffer no loss of prestige or dignity by permitting the superintendent to be the head of the school system, in fact as well as in theory. Mr. Cooley has succeeded in doing this to a far greater extent than it is possible to indicate within the narrow limitations of this article. To say that he may have attained these remarkable results in a little over two years by the practice of some of the arts of the skillful "politician" is merely to say that he sought to meet conditions as they were presented to him, that he chose to deal honorably and diplomatically with men rather than rebuff or repel them, to the end that he might lay foundations for a work that is certain in time to place the Chicago schools in the front rank of the educational forces of this country.

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II

A NEW METHOD OF ADMISSION TO COLLEGE

Again the agony of examination in various colleges of the land is over, and again the hopeful youth of oncoming classes are bending to their tasks with the desire and intention of winning their way and entering by the same gates thru which their predecessors passed. But inasmuch as the results of the 1902 examinations as reported by the public press and by numerous teachers of wide experience show a larger per cent. than usual of the unsatisfying, mystifying, and surprising, I am impelled to propound the query: Do we yet have the ideal method of admitting young men and women to the higher institutions of learning in our land?

Some of these institutions admit by the certificate system; and altho the champions of this method urge strenuously and even heatedly the peculiar advantages of their favorite plan, they fail to convince some colleges and many teachers that this is an ideal system, after all. As the arguments *pro* and *con* have often been discussed in school journals and associations, I shall not attempt to thresh old straw. But on the other hand the fact remains that the indorsers of the admission examination plan generally admit that their method is a necessary evil; their main contention is that the evil of admission by examination is smaller than that of admission by certificate. Concede that they are right, if you will: or maintain, if you please, that the reverse is the truth; is it not possible—yes, likely—that some other method may be devised in which the evils shall approach still nearer to the vanishing point?

A few of the recognized disadvantages of the present examination plan merit more than passing mention. During the past summer the country was regaled with columns of scandal affecting an ancient and honorable school, because of a wholesale attempt, on the part of a score or more of its pupils, at "cribbing" an entrance into college. This was a juvenile and harebrained endeavor to avoid both Scylla and Charybdis; but the blind led the blind and all fell thru a manhole. It is evident, then, that admission examinations tempt to evil the dishonest and the weak, and are to that extent immoral. It is also probable that the unfit have at times succeeded in thus unfairly obtaining entrance, and in consequence the very object of the examination—the exclusion of the unfit—has been defeated.

But there is another evil which is greater than the last mentioned. It is a maxim of law that it were better that ninety and nine guilty men should escape than that one innocent man should suffer. It is also better that ninety and nine unfit men should secure admission—by accident—into our higher institutions, than that a single candidate capable of pursuing the courses of study offered should be, for any cause, rejected. The former happens often; sometimes, we are constrained to believe, by reason of disingenuousness on the part of the student, sometimes for other reasons to which I shall refer later; but no harm is done to any except to the student who cheats his way in. He gets a temporary idea that dishonesty is the best policy, and will very probably try it in succeeding years whenever he thinks it possible to win by it. But to the student fitted to proceed, who fails, the consequences are always distressing, and sometimes serious. Discouragement, shame, regret, despair, and even suicide have resulted. And failures by accident (if not to enter, at least to pass in some subject) occur every year. Who that has had considerable experience in preparing pupils for college, has not again and again been disappointed—both ways—in the results of admission examinations? Bright and conscientious pupils, who never shirk their work and who are confidently expected to win honors, come to an examination in a condition of extreme lassitude, or with a confusing headache, or in a time of excessive heat, or merely on an "off day," and get low marks or failures. Other pupils who are fond of taking chances, who are not brilliant and are not conscientious workers, have a run of luck and go in before their betters. All this is perfectly natural. Similar results are happening in the secondary school thruout the year. The good scholar does not always get good marks, unless he is a prodigy, or the average scholar only average. It is not considered fair in school to mark a class even for a month, on a single test. There are psychological, and physiological, and analogical reasons why a single test should never be made conclusive. Even a gambler does not stake his fortune on a single hazard till his brain reels and he becomes reckless of consequences; and to compel a callow youth to stake his future on a single throw is both immoral and unscientific. It is only averages, and many of them—the "long run"—that show the real capacity of a growing boy or girl; and that is the strong card of the certificate system. I am not defending that system, however. I am merely showing the vices of the opposing method.

One or two incidents that have come to my knowledge in the past, that have happened in college examinations after admission, prove that a single test of one's acquisitions is likely to be misleading. In one case a boy of brilliant parts, but of shiftless habits, had taken an elective course in Italian. He chose this because he thought it would be easy—for he was a natural linguist and had a fair knowledge of Latin and French; and to render the course still easier, he cut most of the recitations. Finally examination day rolled around, and that must be met somehow. He boarded a street car for a long ride to college, and by a happy inspiration he put an Italian grammar into his pocket; he thought he would try the novel experiment of studying a little, with the forlorn hope that he might learn something that would be of practical service. Fortune favored him beyond his hopes. On the car he met the "dig" of the class, and under his direction, inspiration, and instruction, he mastered a difficult passage in a reading lesson. And it came to pass that on that lesson the examination was mainly set, and Signor Shirk passed, as well as Signor Dig. But did that accident affect the comparative knowledge of either?

Another incident: A few years since several boys in a class that I well knew had been preparing carefully, and even anxiously, during many weeks, for a coming examination. One evening two other boys who had made no preparation whatever, and had had no previous thought of trying the examination, "stunted" each other to enter. They had from ten at night till six in the morning to prepare. One failed, as he ought—but one passed. Who supposes that the examination was a true test of the knowledge of the "successful" candidate?

This very year I know of a pupil who found that his German admission examination consisted largely of a poem which his teacher had happened to require him to commit to memory. He passed, naturally, and fairly, too. But were his competitors, who had not seen the poem, marked fairly under the circumstances?

It is demonstrated year after year, in summing up the results of admission examinations, that a run of luck, good or evil fortune, a surprising coincidence, or whatever we please to call it, plays no small part in deciding who shall pass and who shall fail to pass in any subject. It is at best but a game of cards: skill surely counts for much, but chance constantly intrudes its demoralizing presence. I hear of a teacher of note who last June sent nineteen boys to Harvard College to take the examination in advanced algebra. The highest mark which any boy received was "E." Yet that teacher firmly avers that every one could pursue the Harvard course of higher mathematics with profit. But "advanced algebra" is a wide field, and the examination was set on a part that no one had explored. A famous teacher in one of the suburbs of Boston writes: "The complaint is that the poorest and the best—*very best—that we ever had* get D's in the Harvard examinations this year." I noticed that same phenomenon in my own classes, but I find no fault with the examiners. I have no doubt that their markings were just. The fault, dear Brutus, is not in our stars, but in our system. We need another and a fairer test of merit.

Thus far destructive criticism.

But how shall we test for merit if not by examination? Candidly now, that question is not so rational as it seems.

Bring me a pudding and how shall I test it? Examine it? Superficially, perchance; but the old saw tells me where the real proof lies. Other old saws concerning cats that have been singed and glitters that are not golden warn me not to trust entirely to appearances. Do I select my friends by appearance and examination? I may be prejudiced or prepossessed in some sort at the outset, but I discover my true friends by trial. The business world has come to understand a principle that Sherlock Holmes would call "obvious," and when a man has a really good article to sell he pleads permission to send it to us on approval; or, as one humorous house puts it, "on suspicion." A story is told of a lady who purchased a pair of shoes; as she examined them they were evidently of good workmanship and in the height of fashion; but after a day of service they burst out near the sole. She took them back to the dealer, who exclaimed, "But you must have walked in them, ma'am! Those shoes never were made to walk in!" Likewise, by superficial evidences of fitness the unfitted creep in, here and there, into all our colleges; but a trial of their mettle finally ensues and they fall out by the way. Into one of the higher institutions of learning that I wot of, the admission is not difficult. Examinations are held, it is true, but few men are rejected. Yet a great number of the Freshmen never become Sophomores. For during the year the true test is applied—the only fair one—the test of their ability to keep up in the race. Take it in the world of affairs. Is it not ever thus? Does the publisher refuse to examine a manuscript before he sees the diploma of the writer, lest illiteracy contaminate him with leprous touch? Before a man shall sell groceries must he be examined to see whether he has found his true vocation, or is he allowed to be his own judge and to take his own risk? I have often been told by business men that ninety-five per cent. of all who enter the grocery business fail; yet even in these days of unions and of guilds no one has ever proposed an examination board which shall pass upon the ability of prospective grocers, lest some should enter the ranks and should not succeed.

If a man wishes to enter his horse for a race, I am told there are but two conditions: proof that his horse is not in a faster class than that in which he is to compete, and an entrance fee. That is horse sense. Colleges do exactly the opposite. They demand no entrance fee, or deposit, as a guarantee of confidence on the part of the applicant; consequently they are compelled to reject all who seem likely to be in a slower class.

It is time to revise our educational methods along with our theology. Forty years ago good people talked much of getting into heaven, as if that were the acme of desire. They seemed to ignore the fact that a man of vicious nature, compelled to live among the pure in heart, would be in hell. Saner thinkers came to realize that "the way to heaven lies through heaven, and that all the way to heaven is heaven." Now college has been looked upon by many as a sort of intellectual heaven. If one gained entrance, no matter how, presto! he became a learned man. But those who have been there find there are fools even in that Paradise.

My plea for a new method of admission is this: Throw the doors as wide as if the college were a race-track. Make the curriculum a race for life, free-for-all, with but three conditions: a good moral character, seeming earnestness of purpose, and a reasonable deposit. The deposit would vary with varying conditions; for convenience let us call it $100 down. Should the applicant prove capable of continuing his course, let the deposit apply to his tuition. Should he fail to appear or prove incapable, let the money go into the college treasury to pay for the trouble of dealing with an incompetent and to fine him for his presumption.

What would be the result of such a course? The responsibility would rest upon the student from his start in the secondary school. That is where it belongs. Each pupil should be led to view his teacher as guide, friend, and helper, but to remember that success, both in school and college, lies in his own constant, daily, faithful endeavor—not in some sort of hocus-pocus by which he can cram for a crisis. Would any pupil well-fitted, self-reliant, honest, willing to work, ambitious in the highest sense, hesitate to risk $100 on his chances of keeping up in the race? I trow not. I have known many a young man who would shrink from the ordeal of a single examination, who would enter joyfully upon a contest where fidelity, application, and "sand" were to be the tests by which his fitness should be proved. On the other hand the gilded, veneered, and crammed *chevaliers d'industrie,* who shine by reflected light or who are enabled, by the convenient endowment of a retentive memory, to become a storage battery of the power produced by others for a short but brilliant run, would foresee the difficulty of the endurance test and would fall back upon honest methods or give up the attempt.

Some years since I knew a young man who desired to enter college. I knew something of the high school which he had attended, and I felt sure he could not pass an admission examination. I went to the authorities of a certain college, however, and vouched for his success if he were admitted on probation. This college received applicants on certificate, but I could give no formal certificate, since I had given the young man no instruction. But in consideration of his character and staying qualities I urged his admission on general principles, and not on a technical qualification. They took a reasonable view of the matter and dared to try the experiment. The result was what might have been expected: he was faithful and successful thruout his course, popular with his classmates, and secured honors at his graduation.

But suppose a free-for-all admission system were adopted by any college and a horde of ill-educated but wealthy applicants should descend upon it; would it not be buried alive beneath the weight of its own prosperity? Again I trow not. There are various methods that I will but suggest that would prevent such a calamity. If an invasion of barbarians were actually feared, the fee might be $100 for the first hundred applicants, $150 for the second hundred, and so on; or a larger fee might be imposed at the beginning; or not more that five hundred students might be received into one class, even on probation. But I an not proposing matters of detail; I am merely advocating a general line of procedure.

Why should high walls be built around all our higher institutions of learning, as if the latter constituted a Forbidden

City? Why set guards about the Temple of Education, lest some enthusiastic disciples scale the wall—instead of taking the time to go around by the gate—and then steal the secrets belonging only to the initiated? Do the colleges screen Eleusinian mysteries from the gaze of the profane; or are they afraid to expose young men and women to higher learning unless they bear the vaccination scars of secondary education? Why exclude from trial any who earnestly and honestly wish to secure a higher education, provided they are willing to risk their money on their ability to succeed? And inasmuch as it is an undisputed fact that many teachers object to the certificate system because it throws upon them, as they think, too much responsibility; inasmuch as the examination system places all the responsibility upon the college, and the results have been proved fallible; inasmuch as both the prevailing methods have grave faults, why not shift the responsibility to the persons vitally concerned and let them prove whether they can stay in the race?

The proposition is a radical one, but that is not proof that it is impractical. A final objection may be raised, that some pupils would prefer examination admissions, and others would find difficulty in paying a large sum down. The first of these objections seems uncandid, and the second invalid; but admit them both for the sake of argument; many colleges already admit both by certificate and by examination—why not try admission on deposit for a probationary term as a third method, in order to test it practically?

D. O. S. LOWELL

NEW DORCHESTER,
MASS.

III

MATHEMATICAL PRODUCTIVITY IN THE UNITED STATES

Both on its own account and in its relation to the general question of research, this subject is naturally interesting to the specialists immediately concerned; and it seems a happy augury that not long ago several western college and university presidents, in convention, considered the problem how to secure that officers of instruction shall become, in addition, investigators and producers. A complete solution will be found when, and only when, the nature and importance of the problem shall be appreciated, not only by scientific specialists and university presidents, but by educators and the educated public in general, and this condition will be satisfied in proportion as the interdependence of all grades and varieties of educational and scientific activity shall come to be generally understood, and especially in proportion as we learn to value the things of mind, not merely for their utility, but for their spiritual worth, and to seek, as a community, in addition to comfort and happiness, the glory of the sublimer forms of knowledge and intellectual attainment.

Except when the contrary may be indicated or clearly implied, the discussion will confine itself to pure mathematics as distinguished from applied mathematics, such as mechanics and mathematical physics.

And first as to the significance of terms. According to the usage that has long prevailed among foreign mathematicians, and which, during the last quarter of a century, has come to prevail also in this country, the term mathematical productivity is restricted to discovery, successful research, extension in some sense of the boundaries of mathematical knowledge; and such productive activity includes and ranges thru the establishment of important new theorems, the critical grounding of classical doctrines, the discovery or invention of new methods of attack, and, in its highest form, the opening and exploration of new domains.

Not only does the term productivity now signify here what it signifies abroad, but the prevailing standards in the United States agree with those of Europe. It is not meant that the best work in this country is yet equal to the *very* best of the European, or that the averages coincide, but that the Americans judge home and foreign products by the same canons of value, and that these are as rigorous as the French, German, or British rules of criticism.

Time was when productivity meant, in the United States, the writing and publishing of college text-books in algebra, geometry, trigonometry, analytical geometry and the calculus, not to mention arithmetic. That time has gone by. At present the term neither signifies such work nor, except in rare instances, includes it. With reverence for the olden time when the college professor, especially in comparison with the average of his successors of the present time, was apt to be a man of general attainments and diversified learning, it may be said that, judged by modern standards of specialized scholarship, the special attainments of American mathematicians previous to a generation ago, except in the case of a few illustrious men, were exceedingly meager—a fact which, as it could hardly have been suspected owing to their isolation by the mathematicians themselves, was even less known to their colleagues in other branches of learning or to the educated public in general. The writer of a college text-book in mathematics was naturally regarded as a great mathematician, despite the circumstance that, in general, the book contained the sum of the author's knowledge of the subject treated, much more than the average teacher's knowledge, and quite as much as the most capable youth was expected to master under the most favoring conditions. In general, neither author nor teacher nor pupil had knowledge of the fact that their most advanced instruction dealt only with the rudiments and often even with these in an obsolete or obsolescent manner; in general, there was no suspicion that, on the other side of the Atlantic, mathematics was a vast and growing science, much less that it was developing so rapidly and in so manifold a manner that the greatest mathematical genius found it necessary to specialize, even in his own domain. As a natural consequence American mathematical instruction depended almost exclusively on the use of text-books. What was thus at first a necessity became a tradition, and, accordingly, in striking contrast with French and German practice in schools of corresponding grade, American college and undergraduate university instruction in mathematics, with some exceptions, of which Harvard is the most notable, continues still to make the text-book the basis of instruction, even where it is not regarded as a *sine qua non* of the classroom. One result of this practice and tradition is that the text-book, which early assumed in the public estimation what now seems to be an exaggerated importance, continues still to be often regarded as an indispensable instrument for the systematic impartation of knowledge.

The text-book method in undergraduate mathematical instruction undoubtedly has some peculiar merits and is recommended by considerations of weight. I am not about to advocate its abandonment. That question, moreover, is in a sense alien to the subject here under discussion. But I may say in passing that the notion, so firmly lodged in many of our colleges and still more firmly established in the mind of the general educated public, that the text-book is indispensable, is an erroneous one. That, as already said, has been amply proved both here and abroad, at Harvard, in some American normal schools, and in the schools of Germany and France, by the best, if not the only, method available for settling such questions, namely, by trial. And I could wish it were better known, particularly to teachers in secondary schools, that some of the ablest mathematicians and teachers of mathematics deprecate, not the use of the text-book, for that use has been sufficiently justified by the practice of most eminent and effective teachers, but our traditional dependence upon it, believing that this dependence often hampers the competent teacher's freedom and so prevents a full manifestation of the proper life of the subject. For the subject has indeed a deep and serene and even a joyous life, and, contrary to popular feeling, it is capable of being so interpreted and administered as to have, not merely for the few, but for the many, for the majority indeed of those who find their way to college, not only the highest disciplinary value, which is generally conceded, but a wonderful quickening power and inspiration as well. And it may very well be that the very great, tho not generally suspected, human significance and cultural value of mathematics, the fact that not merely in its elements it is highly useful and applicable, but that thruout the entire immensity and wondrous complex of its development it is informed with beauty, being sustained indeed by artistic interest,—it may indeed be that all this will in some larger measure come to be felt and understood when teaching shall depend less on the text-book, at best a relatively dead thing, tending to bear the spirit of instruction down, and shall instead be more by living men, speaking immediately to living men, out of masterful knowledge of their science and with a clear perception of its spiritual significance and worth.

To return from this digression, it is fully recognized by all that, as undergraduate mathematical instruction is now carried on in our country, the text-book writer is a pretty valuable citizen, nor is there any disposition to detract from the dignity of his activity. Indeed, tho some of the older books compare favorably in important respects with the best of the new, it may be said that, in general, to write a highly acceptable mathematical book for college use requires to-day an order of attainment far superior to that which was sufficient even a score or two of years ago. The training and scholarship which such work presupposes are, in respect to amount and more especially in respect to quality, not only relatively great, but very considerable absolutely. The author of the kind of book in question—and happily there is no lack of competition in this field of writing—may be certain of intelligent, if not always generous, appreciation; he may be able thereby to lengthen his purse, his book stands some chance of being briefly noticed in reputable journals, and he may even gain local fame, but, however excellent the quality of his workmanship, it will seldom secure him a place in the ranks of the investigator or producer. The service of the text-book writer has not been degraded. It receives a more discriminating appreciation than ever before. It is merely that this kind of work has received a more critical appraisement. Not a few mathematicians decline to undertake the work of text-book writing, for the reason that they do not wish to be classed as text-book authors. If one who has published several original papers yields to the temptation to write a book for college use, the chances are his reputation will suffer loss rather than gain. Possibly such ought not to be the case, but nevertheless it is the case.

In regard to mathematical productivity proper, it is probably true that during the last twenty-five years, especially during the latter half of this period, there has been greater improvement in research work and output in this country than elsewhere in the world. Such sweeping statements are of course hazardous, and I make this one subject to correction. At all events, the gain in question has been great and is full of promise. Just about twenty-five years ago the *American Journal of mathematics* was founded at the Johns Hopkins University, where it is still published as a quarterly. Previous to that time two or three attempts had been made to publish journals of mathematics in this country, but they met with little success, and are now scarcely remembered. The *American Journal of mathematics,* in the beginning, sought contributions from abroad, and reference to the early volumes will show that these are to a considerable extent occupied by foreign products. A second journal, the *Annals of mathematics,* was founded in 1884, and published at the University of Virginia. This journal, a quarterly, still flourishes, being now published at Cambridge, Mass., under the auspices of Harvard University. In 1888 was founded the New York Mathematical Club, which soon became the New York Mathematical Society and began the publication of a monthly *Bulletin.* In 1894 this society became the American Mathematical Society, which now has a membership of nearly four hundred, including, with few exceptions, every American mathematician of standing, besides some members from Canada, England, and the Continent. This society has a rapidly growing library, and publishes two journals, the *Bulletin,* already mentioned, and the *Transactions,* a quarterly journal, recently founded, and devoted to the publication of the more important results of research. The four journals named are, all of them, of good standing and exchange with some of the best British and Continental journals. Not by any means all the members of the society are producing mathematicians, but a large percentage of them are sufficiently interested to attend one or more meetings of the society each year. These meetings are bi-monthly meetings, held in New York, and a summer meeting at a place chosen from year to year. To meet growing demands, a Chicago section has been organized, which holds regular meetings in that city, and a second section on the Pacific Coast, whose business will be conducted perhaps at San Francisco. These sections report to the society proper, which has its offices in New York City.

At these meetings there are presented annually several scores of papers, a percentage of which deal with applied mathematics. Of course not all of these papers are important, but some of them possess very considerable, a few of them distinctly great, value, and a large majority of them fall properly within the category of original investigation as defined. In addition to such more regular contributions, a considerable number of mathematical papers are annually presented before other American scientific organizations, as, for example, before Section A of the American Association for the Advancement of Science. The majority of all these articles are found to be available for publication, and the result is that, altho foreign contributions are no longer invited as formerly, and few of them received, the four journals above mentioned are, nevertheless, taxed beyond their capacity; and, for want of room, papers are sometimes rejected by the American journals which, if produced abroad, would probably be published there, where the facilities for publication are ampler. In fact, the number of American memoirs published abroad exceeds perhaps the number of foreign contributions published here.

It is greatly to be regretted that our facilities for publication, tho recently so greatly enhanced, are still distinctly inadequate. For mathematicians are also men, and, as such, one of their most powerful incentives to research is the prospect of the recognition that comes from having the results of their labors properly placed before the scientific world.

While the picture thus drawn of American mathematical activity is a pleasing one and is full of encouragement and hope, still we must not disguise from ourselves the fact that, in view of the vast extent and resources of our country and of the large number of professional mathematicians connected with our numerous colleges and universities, the amount and the average quality of the American mathematical output are not only distinctly inferior to that of the more scientific countries of Europe, for which, not without some justice and plausibility, we are wont to plead our youth in defense and explanation, but this average and amount are by no means a measure of our native ability nor in keeping with our achievements in some other scarcely worthier, if less ethereal, domains.

The reasons for this state of case are not far to seek, and come readily to light on a minuter study of the necessary and sufficient conditions for the vigorous prosecution of mathematical research.

We may recall the philosopher's insight that "there is but one poet and that is Deity." The poet is indeed born, we all agree; and it is equally, if not so obviously, true that the great mathematician or financier or administrator is born. But the mathematician is not born trained or born with knowledge of the state of the science, and hence it goes without saying that to native ability, which we presuppose thruout as absolutely essential and which is not so rare as is often thought, training must be superadded, years of austere training under, or still better, in co-operation with, competent masters in a suitable atmosphere. Formerly, it was in general necessary to seek such training abroad; that is no longer the case, now that our better universities are manned with scholars of the best American and European training. Indeed the mathematical doctorate of a few of our own institutions now represents quite as much as, if not more than, the average German doctorate, tho less, we must still confess, than the French, which probably has the highest significance of any in the world. Several of the most highly productive mathematicians in the country have not received foreign training, while a still larger number of non-producers studied abroad for years—a fact showing that such training is neither a necessary nor a sufficient condition. It is not intended to depreciate the absolute value of foreign training, but only its relative value—its value as compared with that of the best which our own country now affords. It is still desirable, when not too inconvenient, to spend a year in the atmosphere of foreign universities, and many avail themselves of the opportunity, largely for the sake of the prestige which, owing partly to a tradition, it still affords in many American communities. It is, of course, a mere truism to say that training, tho necessary, is not sufficient. Unless there be the gift of originality, training can at best result in receptive and critical scholarship, but not in productive power.

There is in our country a goodly number of men having the requisite ability and training, who, nevertheless, produce but little or nothing at all—a fact to be accounted for by the absence in their case of other essential conditions.

In some cases library facilities are lacking. Mathematical science is a growth. The new rises out of the old, whence the necessity that the investigator have at hand the major part at least of the literature of his subject from the earliest times. Even more exacting, if possible, is the necessity of having ready access to the leading journals of England, Germany, France, and Italy, besides those of America. One takes special pleasure in mentioning Italy, because she has been recently making rapid advances and in two important directions, the geometry of hyperspace and mathematical logic, the ontology of pure thought, she comes well-nigh leading the van. Of journals there are at least a dozen which are absolutely indispensable to the research worker and as many more that are highly desirable. In addition, the producing mathematician will not infrequently have occasion to refer to memoirs which, because of their length or for other reasons, have not appeared in the journals, and are to be found only in the proceedings of the leading general scientific and philosophical societies of Europe. The lack of such facilities, which in some cases a few hundred and in other a few thousand dollars would suffice to make good, is in itself sufficient to explain the non-productivity of not a few American mathematicians.

Again, there are cases where able men have not the necessary leisure to engage successfully in investigation. Our universities are for the most part so organized that the energies of scientific men are largely expended in undergraduate teaching and in administrative work. We, as a people, have yet to learn that the value of a professor to a community can be rightly estimated, not by counting the number of hours he actually stands before his classes, but rather, if we must count at all, by reckoning the number of hours devoted to the preparation of his lectures, and more particularly by the fruit of quiet study and research. In Germany the ordinary professor lectures from four to six hours a week, to which if we add in some cases two hours *Seminarübungen,* we have a total of six to eight hours of presence in the lecture room. In France the professor is expected to give one course of lectures. These take place twice a week and last from one to one and a half hours. To this duty should be added that of holding a large number of examinations—a rather wearisome service from which the German escapes. When we contrast this with the ten to fifteen and often even twenty or more hours of actual teaching demanded of the American professor, to say nothing of faculty meetings, committee meetings, and the multitudinous examinations, and when we do not fail to reflect that ten hours are much more than twice five in their tax upon energy, it is little wonder that in productivity our most brilliant men are often so greatly outclassed by their foreign competitors. Moreover, " our universities are at present, for the first two years, gymnasia and lycées, and our professors are accordingly obliged to devote themselves largely to what is properly secondary instruction"—a kind of work which, however worthy, important, and necessary, has the effect, not merely of drawing off the energy in non-productive channels, but also eventually of forming and hardening the mind about a relatively small group of simpler ideas.

Again, scientific activity is not infrequently rendered impossible by the amount of administrative work which professors of notable administrative ability are called upon to perform. Indeed "the problem presses for solution, how to retain the many peculiar excellences of our college and university life and at the same time to create for certain men of talent and training a suitable environment for the highest scientific activity."

Once more, it is very desirable, indeed it is really necessary, for men working in a branch of science to attend the meetings of scientific bodies, in order to meet their fellow-men, to take counsel of them, to create and share in a wholesome *esprit de corps,* to catch the inspiration and enthusiasm, and to gain the sustaining impulses which can come only from personal contact and co-operation. But our country is so vast, the distances so long, and traveling so expensive, that many mathematicians, owing to smallness of income, find themselves hopelessly condemned to a life of isolation, of which the result is a loss first of interest and then of power. It is in vain that one counsels such men to wake up and be strong and active, for their state of inactivity is less a defect of will than an effect of circumstances.

There is a second phase of this question of remuneration which is, happily, beginning to attract attention and to receive consideration in university circles. I refer to the proposition that a wise economy will provide, for university service, remuneration, not such as would attract men whose first ambition is to acquire the ease that wealth is supposed to afford, but such as will not, by its inadequacy to the reasonable demands of modern social life, deter men of ability and predilection for scientific pursuits from entering upon them. I know personally of six young men, not all of them mathematicians, who have sufficiently demonstrated that they possess such ability and predilection, five of whom have recently relinquished the pursuit of science and the fifth of whom told me only yesterday that he seriously contemplates doing so, all of them, for the reason that, as they allege, the university career furnishes either not at all, or too tardily, a financial competence and consequent relief from practical condemnation to celibacy. It matters little whether they be mistaken to a degree or not, so long as the contrary conviction determines choice. There is, indeed, more than a bare suspicion that for reasons akin to those actuating in the cases cited, the university career, particularly in case of the more abstract sciences, such as pure mathematics, whose doctrines have little or no market value, fails to attract a due proportion of the best intellects of the country. For it should be understood that successful investigation in such sciences demands men of intellectual resource, of power, of persistence, in a word, men of strenuosity of life and character. Such men are indeed the intellectual peers of the great financier, or soldier, or statesman, or administrator, and they are aware of it; so that if too many such men are not to be drawn away from scientific fields by the prospect of achieving elsewhere not only fame but fortune also, it stands to reason that the university career must promise at least a competence and the peace of mind it brings. That such is the case, and that the future will condemn the present for a too tardy recognition of the fact, is a matter which can hardly admit of doubt.

That the conditions above indicated are those which determine the matter of mathematical productivity is a proposition which not only commends itself *a priori* to the reason, but is justified also *a posteriori* by experience, for statistics show that those institutions, both foreign and domestic, where such productivity has flourished best are also those where the conditions named are most fully satisfied, and that where one, at least, of the conditions is not fulfilled, there investigation proceeds but feebly or is wholly wanting.

It remains to mention another condition which in a sense includes all others, and whose fulfillment will come gradually as at once the cause and the effect of the fulfillment of all others. I mean, of course, a public sentiment which will demand, because it has learned to appreciate, knowledge, not merely because of its applications and utility, but for its beauty, as one appreciates the moon and the stars without regard to their aid in navigation—a public sentiment that shall seek every provision and regard as sacred every instrumentality for the advancement and ministration of knowledge, not only as a means to happiness, but as a glory, for its own sake, as a self-justifying realization of the distinctive ambition of man, to understand the universe in which he lives and the wondrous possibilities of the Reason unto which it constantly makes appeal.

C. J. KEYSER

COLUMBIA UNIVERSITY

IV

OXFORD, PAST AND PRESENT

The University of Oxford differs from most of our American universities in that, so far as is known, it had no founder. Further, altho there are a number of legends which seek to account for its existence, there is no satisfactory, indisputable account of the manner of its foundation. There is first the legend which tells of how King Mempric, a contemporary of King David, and certain Greek professors, who came to England with Brute the Trojan after the fall of Troy, founded a university at Greeklade or Cricklade in Wiltshire, and subsequently removed it to Oxford. And there is the other legend, which has been very dear to some, which ascribes the foundation to Alfred the Great. There is also the story,—part *Wahrheit* and part *Dichtung*,—which gathers about St. Frideswide, the consecrated daughter of the Viceroy Didanus, who about 721 established a home for religious maidens in Oxford. It was she who, being sought in marriage by King Algar, the wicked king of Leicester, hid from him among the swine. It was in answer to her prayer that the King and his messengers were struck with blindness. And it was she who for Algar's sake cursed all kings who should enter Oxford, so that for centuries the English kings feared to come within the walls of Frideswide the maiden. Strangely enough those who, like Harold Harefoot and Henry III., did attempt it, did so not without accompanying misfortune. And of all the kings of England the most unfortunate was Charles I.—he whose history is most closely identified with Oxford.

The story of St. Frideswide is in part at least pretty well attested. And scholars who rejected the Mempric myth, the Brute myth, and the Alfred myth long found in this legend the origin of the University. For it was natural that men zealous for religion and learning should settle in the neighborhood of a well-known religious foundation, and thus, it was believed, the University was gradually evolved. Latterly, however, there has been a disposition to ascribe to it a rather more definite beginning. It will be remembered that Louis VII. of France did not conduct himself in the second crusade in such a manner as to make his friends particularly proud of him. As a result his high-spirited wife, Eleanor of Aquitaine, would have very little to do with him. A divorce soon followed, and the lady chose as her second husband Henry II. of England, thus transferring her immense dowry of Aquitaine to the English crown. It would appear that she did not herself think that she came as a great blessing to the country of her adoption, for she had a fashion of signing herself, "Eleanor, by the wrath of God, Queen of England." The consequences of the marriage were certainly momentous. One of the more remote consequences (of this and of some other things) was the Hundred Years' War. One of the more immediate consequences (of this and of some other things) was the University of Oxford. For in the quarrel which arose between Henry II. and Thomas à Becket, the French king, always ready to do the husband of his former wife a disservice, took the Archbishop's part. As the English ecclesiastics for the most part sided with their sovereign, they were included in his displeasure. Now the University of Paris was at that time the ordinary place for the education of English churchmen. Accordingly in 1167 we find Roger of Salisbury regretting that "France, the mildest and most civil of nations, has expelled her alien scholars." And we also find among a series of ordinances issued by the English king at about the same time against the partisans of Becket, one ordering all clerks who had revenues in England to return home within three months "as they loved their revenues." It seems probable that the English scholars, thus under a double necessity of leaving Paris, decided to settle in Oxford, already a home of religion and learning, and to reproduce there, so far as might be, the life of Paris.

The University, thus founded, grew with wonderful rapidity. Tradition has it that at one time during the reign of

Henry III. the student body numbered no less than thirty thousand. This is doubtless an exaggeration, yet it is not improbable that in the days when there were no books, when the only way to acquire knowledge was to gather in the places where the precious manuscripts were to be found, or to hang upon the lips of the living teacher, there were more students at Oxford than at present.

It was the necessity of maintaining discipline that led to the establishment of the colleges. The University, as it now exists, is a federation of twenty-two colleges. And in the history of these colleges it is possible to trace the whole history of England. For there is nothing that Englishmen have done, thought, or felt, that has not left its impress upon one or more of the colleges of Oxford.

A few examples will suffice. Altho it is now generally admitted that University College is a thirteenth-century foundation, the legend which connects its origin with Alfred the Great has become, by a decision of the Court of King's Bench in 1726, part of the law of England. In the daily thanksgiving for benefactors which goes up in the college chapel King Alfred has his place. And in June, 1872, the members of this college celebrated their alleged millenary.

Balliol recalls the hero-age of Scotland. It was founded sometime between 1260 and 1266 by John Balliol, father of the John de Balliol who became king of Scotland. He had been sentenced to be scourged at the doors of Durham Cathedral, but he escaped his punishment by founding this college for poor scholars of Durham. Thru its great master, John Wyclif, Balliol was closely connected with the first powerful religious agitation that swept over England. By its late master, Benjamin Jowett, it was made pre-eminently the scholars' college. It held the first rank among Oxford colleges, not only as a place of education, but also as the home of a brilliant coterie of learned and thoughtful men. Its scholars and fellows were selected not only with reference to their ability to pass examinations, but also with reference to their social qualities and intellectual development. For to Jowett a university was a place where great souls might find fellowship with each other and with the mighty dead, rather than a place for studying Greek particles. Thus Arnold Toynbee, whose delicate health forbade his even attempting the examinations, was one of the most valued members of Balliol.

Around a personality so marked as that of Jowett all kinds of good stories gathered. There is one of a clever, superficial fellow who, having been given to understand that the Master's religious views were somewhat heretical, thought to gain favor with him by pretending that he too was a heretic. One day when they were walking together he said to him, "Master, I have read such and such books, and I see no reason for believing in the existence of a God." The Master stopped short in the walk as he replied, "Young man, you find a God before five o'clock this afternoon, or go down" (the technical expression for leaving Oxford).

Another story tells of how two rather wild sons of Balliol had a desire to spend their holidays at the college. To do this it was necessary to secure the Master's permission. He was loath to grant it, and yet did not wish altogether to refuse it. So he replied that they might stay, but upon conditions, the first condition being that they come to prayers every morning. To this they consented. Somewhat disappointed, he proposed a second condition, that they dine in the college hall every evening. They decided to go down. The Master heard their decision with a sigh of relief. "I thought so," he said; "'this kind goeth not out save by prayer and fasting.'"

Like their American brothers, English students are sometimes given to making rhymes upon their college dignitaries. The Jowett rhyme is as follows:

> "Here am I, my name is Jowett;
> What there is to know, I know it.
> I am the Master of this college,
> And what I don't know isn't knowledge."

Three colleges—Queen's, New, and All Souls—stand as special reminders of the Hundred Years' War. Queen's was founded in 1340 by Robert de Eglesfeld (chaplain to Queen

Philippa, Edward III.'s queen) and was named Queen's College or "Hall of Queen's Scholars," in honor of the good queen whose prayers saved the lives of the citizens of Calais. But it is not Queen Philippa whose statue stands in the cupola under which visitors pass in entering Queen's. The beautiful Gothic front of the old college was not pleasing to eighteenth-century taste, so it was torn down, and in its place the present front, which is not at all beautiful, was built, and in its cupola was placed a statue of the then reigning queen. For it is surely correct to speak of Caroline of Anspach, the wife of George II., as a reigning queen, tho she was but a queen consort. Thus Queen's College stands to-day a monument to her whom tradition calls the best, and to her who certainly was the ablest of all the queen consorts of England.

There was a little room over the original entrance gate of Queen's which the eighteenth-century vandals destroyed. That little room was at one time occupied by Queen Philippa's son, the Black Prince, and later by the prince who was afterward Henry V. It is said that there was in the room a portrait of the latter prince, with the following inscription upon it:

"In perpetuam Rei memoriam,
Imperator Britanniæ,
Triumphator Galliæ,
Hostium Victor et sui,
Henricus V.,
Parvi hujus cubiculi,
Olim Magnus Incola."

There is a famous game which the dignitaries of Queen's have played every Christmas Day now for more than five hundred years. At five o'clock in the afternoon the Tabardar blows the trumpet which has called the men of Queen's together ever since the founder's time. In the presence of a great assembled multitude, a man bears a boar's head adorned with bay and rosemary and wearing a crown of gold thru the Hall. He is followed by the choir boys singing:

"The boar's head in hand bear I,
Bedeck'd with bays and rosemary;
And I pray you, masters, merry be,

> Quotquot estis in convivio,
> Caput apri defero,
> Reddens laudes Domino."

Tradition says that this ceremony is in commemoration of an act of valor performed by a student of the college who, on Christmas Day, 1376, while walking in Shotover Forest and reading Aristotle, was suddenly attacked by a wild boar. The beast came at him open-mouthed, but he, with great presence of mind, crying "*Græcum est,*" rammed the volume down his throat, thus fairly choking him. But the custom probably strikes its roots further back than the Queen's College hero, in the times when Frey the sun-god ruled over Norway and Sweden—Frey to whom the dwarfs of fairyland gave the golden-bristled boar as a tooth-gift. When the world was a few centuries younger than it is now men liked to play games which we, in our grown-up wisdom, would think very childish to begin playing, but which we are glad to go on playing because they began to play them.

It was in 1379, "in a time of shame and suffering such as England had never before known," when "her conquests were lost, her shores insulted, her commerce swept away from the seas, while within she was exhausted by the long and costly war as well as by the ravages of pestilence," when "literature had reached its lowest ebb," that William of Wykeham, Bishop of Winchester, founded New College in order to "repair the scarcity of scholars in the nation, having been swept away by great pestilences and wars." It was founded on a larger scale than any of the earlier colleges, on a site which had been found by a jury to be infested by malefactors, murderers, and thieves, as well as the scene of other nuisances.

All Souls keeps alive the memory of Agincourt. Its corporate name is "*Collegium omnium animarum fidelium defunctorum de Oxon.*" (College of the souls of all the faithful deceased at Oxford). It was founded by Archbishop Chichele in 1438, "that perpetual prayer might there be said for the souls of all who had fallen in the war with France, and of all faithful deceased." And for these thanks are still given at morning prayers in the college chapel.

The members of perhaps all the pre-Reformation colleges were required to pray for the souls of the founders, or of some persons specified, and such prayers were inserted in the daily service. With the Reformation these prayers for the souls of the departed were changed into thanksgivings for their lives, or at least for their benefactions. The 'Varsity sermon, preached every Sunday in term-time in St. Mary's Church, is preceded by the bidding prayer, in which thanks are given "for our creation, preservation, and all the blessings of this life, particularly for the liberality of founders and benefactors, such as were the illustrious. . ." Here follows a list varying somewhat in length, at the pleasure of the clergyman. I once counted thirty-seven names, including Prince Humphrey, Duke of Gloucester; Margaret, Countess of Richmond; Henry VII. and Elizabeth his wife, Henry VIII., Queen Mary, Queen Elizabeth, King James I., Sir Thomas Bodley, and many others. The prayer ends with praising God "for all his servants departed this life in his faith and fear, beseeching Him to give us grace to follow their good examples, that, this life ended, we may dwell with them in life everlasting, thru Jesus Christ our Lord."

St. Mary's Church has itself had as interesting a history as any of the colleges. It was founded in the early part of the thirteenth century, and every period of English history since then has left its mark upon it. It was here that the poor schoolboy, Edmund Rich (afterward Archbishop of Canterbury and St. Edmund), secretly, in the gloaming, placed a ring upon the finger of the Virgin, thus taking Mary to be his bride. Here just before Latimer and Ridley "lighted the candle which by God's grace was never to be put out in England," a man preached from the text "Tho I give my body to be burned, and have not charity, it profiteth me nothing." Here on the 21st of March, 1556, a great concourse of people assembled to hear the Primate of all England, the second Prelate in Christendom, proclaim his adherence to the Romish faith before he suffered martyrdom. Instead they heard him denounce the Pope as Antichrist, and repudiate all that he had said in favor of Roman assumptions, as being "contrary to the truth which I thought in my heart, and written for fear of death, to save my life, if it might be. And forasmuch as my hand offended in writing contrary to my heart, my hand therefore shall be the first punished: for if I come to the fire, it shall be the first burned." Then he too went forth to join the noble army of martyrs—to atone by an heroic and glorious death for a weak and erring life.

It was the bell of St. Mary's that in the mediæval town and gown rows called the gownsmen to arms, while the bell of St. Martin's called the townsmen to arms. Here too memories of the Gunpowder Plot are still kept up, for it is in front of St. Mary's that the celebration of the 5th of November, which has taken the place of the town and gown rows, usually begins.

Coming down to the period of the Reformation, we have Christ Church College, founded by Cardinal Wolsey and sacred to the new learning. It recalls the days when students "rushed to Greek letters, and endured watching, fasting, toil, and hunger in the pursuit of them," the time when Erasmus "found in Oxford so much polish and learning that now he hardly cared about going to Italy at all, save for the sake of having been there,"—the days when he wanted money in order that he might buy "first some Greek books, and afterward some clothes." Nor is there anything more pathetic in the history of its founder than the story of how after his fall he addressed a most earnest petition to the King, that "His Majesty would suffer his college at Oxford to go on."

Forty religious houses were suppressed in order to raise an endowment for the new college. In a debate which I attended at the Oxford Union, in which the question of women's degrees was being discussed, one young man urged that to give degrees to women would be unfair to the founders and benefactors, who had intended that their gifts should be used for the education of men, not for the education of women. The next speaker suggested that in that line of argument it might be well to go back a little farther than the founders and benefactors. "Our largest college," he said, "was founded by Cardinal Wolsey. Where did he get the money from? Why, he stole it from some nuns. And in which is it likely that the nuns were more interested—the education of men, or the education of women?" It is needless to say that he brought down the house.

Connected with Christ Church is the old Norman Cathedral, which was old when the college was new. It stands upon the reputed site of St. Frideswide's priory. Within its walls the shrine of St. Frideswide is to be seen, a shrine erected in the fifteenth century over the place supposed to cover the body of the saint. Almost as interesting as the shrine is the watch-chamber near it, where in pre-Reformation days men kept watch lest the body be stolen. This chamber is always locked now, because Oxford students, being not altogether unlike other students, had a habit of hiding in it, when they should have been listening to grave discourses, or absorbed in their devotions.

Altho Magdalen, loveliest of the Oxford colleges, is a pre-Reformation foundation, the age which it chiefly recalls is that of the later Stuarts—the days when James II. drove its Fellows forth from their peaceful cloisters and beautiful gardens to die of want or live on charity because they refused to accept a Catholic President. The walk under the elms which fringe the meadows on the banks of the Cherwell still bears the name of the gentle Addison. And the most delightful and most profitable hours that Walter Savage Landor could remember at Oxford "were passed with Walter Burch in the Magdalen walk, by the half-hidden Cherwell."

On Magdalen's beautiful tower at sunrise every May Day morning the following Magdalen Grace or May-morning hymn is sung by the college choir:

> "Te Deum Patrum colimus,
> Te laudibus prosequimur;
> Qui corpus cibo reficis,
> Cœlesti mentem gratia."

Below a great crowd is gathered to listen. When the hymn is finished the choristers throw their caps and gowns down into the street. A scramble for them ensues.

Around Oriel gather memories of Charles I.'s stay in

Oxford during the Civil War. Later the "Oxford movement" found its home there. We cannot pass Pembroke without recalling Dr. Johnson, while the Congregational Mansfield and the Unitarian Manchester testify to the more liberal spirit which the latter part of the nineteenth century brought to Oxford. Thus we might multiply instances indefinitely to show that each college represents its own phase or phases of English life and thought. A man chooses his college sometimes because it is the one with which his family has been connected for generations, sometimes because it stands for a movement with which he wishes to identify himself, sometimes because it is the college at which he can get a scholarship.

In coming to Oxford one always "comes up"; in leaving Oxford he always "goes down," and this no matter whence he comes or whither he goes. For it is the spiritual elevation which the Oxonian has in mind; Oxford is as Jerusalem, "whither the tribes go up"—the intellectual and spiritual center of the nation.

Before "coming up" for the first time, the student is required to pass an examination, which is variously known as "smalls," "little goes," or "responsions." This does not differ essentially from an entrance examination in one of our American universities. But the men who take it, coming up as they do from the great English schools, Eton, Harrow, Rugby, and Winchester, are generally considerably in advance of it. Especially is this true in classics.

In addition to "smalls," almost every man who thinks that he has any special ability takes a scholarship examination, and this often without much reference to his financial condition. For the position of the scholar is much more dignified than that of the commoner. He wears a different gown, sits at a different table in Hall, and is treated with much more respect than is the mere commoner. The policy of the English universities is to make poor and mediocre students pay the full price of their education, while the endowment funds are devoted to the education of men of real ability. In this they differ from American universities, whose policy it is to let the endowments partly pay the expenses of all students, good, bad, and indifferent.

Smalls safely passed, and a scholarship secured if he is to have one, so far as his work is concerned, the Oxford man enjoys a freedom from regulations which to the American is surprising. No record is kept of his attendance upon lectures, and it is largely left to him to decide whether they are sufficiently profitable for him to honor them with his presence. Within a year and a half from matriculation he comes up for another examination called "moderations,"—commonly shortened to "mods,"—covering the work done in that time. Two and a half years later he takes another examination, "greats," which covers the ground gone over since "mods." Nothing counts toward his degree save these examinations. Whatever else he may do serves to give his associates an opinion of him, but does not count in any other way. Indeed, so much is the University built upon examinations now, that it is difficult to realize that it ever was otherwise. Yet in the Middle Ages these examinations were unknown. In those days when a man presented himself for his degree all that was necessary was that he should swear that he had heard certain books, and that nine Regent Masters should swear to their knowledge of his sufficiency therein, while five other Masters swore to their belief in his sufficiency. The former of these oaths was known as the oath *de scientia,* the latter as the oath *de credulitate.*

While the Oxford student to-day has more freedom with respect to lectures than is customary in America, in his life outside the lecture room he is obliged to submit to regulations that to the American university man would seem stringent and puerile. In the first place, he cannot take his degree unless he has resided at least three years in Oxford since matriculation. Residence in Oxford is defined as residence within a mile and a half of Carfax, the site of old St. Martin's Church. One sometimes finds two houses side by side, apparently equally desirable,—the rent of the one much higher than the rent of the other. The reason is that the one is just within, while the other is just without the limits. I heard of one young man whose father's house was in Oxford, and who desired to live at home during his university course, but was not quite sure whether the house was within the limits or not. A survey was made, and it was discovered that one wing was within, while the rest of the house was without. He accordingly took a room in that wing. Another youth, on finding that his house was just without the limits, decided to sleep in his father's office, which was quite in town. Recently a young nobleman petitioned that, for reasons of health, he might be allowed to live four miles out of Oxford, while pursuing advanced studies in the University. The request was refused. Because no Scotch, American, or continental university makes so strict a residence requirement as this, Oxford acknowledges no degrees save her own and those of Cambridge and Dublin. In most of the colleges men are expected to attend the morning service in chapel at least four times a week, and to dine in Hall the same number of times. This dining in Hall is one of the features of Oxford life. By means of it the undergraduates meet a large proportion of the men who have made or are to make their mark on the history of their generation. Many a man will testify that he gained more from dining in Hall and from the talks in the common room afterward than from the library and the lecture room. Other meals than dinner are taken where the men please, commonly in their rooms. It is usual for a man to invite a number of his friends to breakfast, and when the talk is good it is customary to linger a long time over the table. So frequent a breakfast dish is marmalade that both Oxford and Cambridge men have been known to date their letters in some such fashion as this, "Michaelmas Term—middle of second jar of marmalade." It is not uncommon for the men to invite ladies, chaperons and chaperoned, to afternoon tea in their rooms. To the American this custom seems a little strange, but it is certainly delightful.

For centuries "Great Tom," the ancient bell of Christ Church, has every evening at five minutes before nine tolled a hundred and one times, that being the original number of students on the foundation of Christ Church. This is the signal for closing the gates of the various colleges. The undergraduate who is out after that is obliged to pay a fine, which is increased at ten o'clock, and increased again at eleven, while one who is out after midnight is "sent down." A story is told of a youth who returned to his college at an early hour, but went out afterward in such a way as to escape the porter's notice, and did not return all night. Now according to law he should have been "sent down," but the authorities were much exercised to find that there was a way of getting out of the college which they did not know about, and it seemed to them that it would be worth while to make an investigation. Accordingly the young man was told that if he would explain how he got out he need not pay the customary penalty. He replied that he would take three days to consider the matter. At the end of that time he suggested that they look at Psalm xviii. 29. They looked and found the words, "With the help of my God, I have leaped over a wall."

The proctor, who is the disciplinary officer of the University and a great dignitary, walks the streets to see whether students are out after dark engaged in forbidden pranks. As he wears a distinctive gown, it is sometimes possible for men to see him several blocks off and dodge him. When he does catch a man in mischief, he takes off his hat to him, and asks, "Are you a member of this University, sir?" On the man's replying in the affirmative, he says, "Kindly give me your name and college." And as a consequence the next day the unfortunate youth hears from his college authorities. It is great sport to be able to lead the proctor a merry dance. It is said that at one time a fat proctor chased a young man all over town, only to find when he caught him that he was a clerk in a mercantile establishment. "Why did you run?" demanded the irate proctor. "Because," was the cool response, "I never heard that there was a law forbidding men to run in Oxford." It is contrary to rule that an undergraduate be out after dark without his cap and gown. This, I suppose, is partly to insure his identification as a university student in case he gets into mischief.

It is quite in accordance with the Oxford spirit to make many regulations for the life and few for the work. For the majority of Oxonians the life counts more than the work. Oxford trains a few scholars, a great many gentlemen. In the debate at the Union previously alluded to, it was urged that the Oxford man values his degree not so much because it means that he has read certain books and passed certain ex-examinations, but because it means that he has lived a certain life. Inasmuch, the speaker said, as women can never lead this life, they should never be granted the degree, no matter how much they may know or what examination they may be able to pass. In a voice of passionate excitement he exclaimed, "Shall we see our university degraded into a *mere intellectual institution* like the University of London?" While not admitting the validity of the argument in its bearing upon women's degrees, I quite agree with the young man in feeling that if Oxford should ever become a mere intellectual institution (of which at present there is no danger), it would be a degradation.

When the examinations are passed, and the culture may be supposed to be acquired, the man comes up for his degree. The quaint ceremony is most interesting. The vice chancellor is seated upon his throne—the proctors on either side. The Heads of the colleges, in presenting their students, use a Latin formula which, put into English, is as follows: "Most illustrious vice chancellor and excellent proctors, I present these my scholars in the Faculty of Arts that they may be admitted to the degree of [Bachelor of Arts or Master of Arts, as the case may be]." When all the Heads have thus presented their men the chief proctor rises and reads the full list, and then says that if any tradesman present has a bill against anyone whose name has been read, he is to pluck the proctors' gowns as they pass thru the audience. The proctors then pass up and down the Convocation House, shaking out their gowns. Now it is hardly possible that there are tradesmen present. Should they be present, the proctor speaks in Latin, therefore they would not understand. Should they be present and understand, if they dared to pluck the proctor's gown, as invited, they would be boycotted forever. Yet it would not do to give up a time-honored custom.

This ceremony being completed, the candidates kneel and are struck on the head with a Greek Testament. I do not know the origin of this, but it always seemed to me analogous to the ceremony of knighthood. There the man is struck on the shoulder, the seat of power, with the sword. Here he is struck upon the head, the seat of the intellect, with the book.

Finally, the vice chancellor says to each applicant for the degree of Bachelor of Arts: "Sir, I admit thee to the degree of Bachelor of Arts, and besides by my authority and that of the whole University, I grant thee power of lecturing, and of doing all other things that pertain to the same degree." To Masters in Arts, he says: "To the honor of our Lord Jesus Christ, to the advancement of our holy mother the Church, and of study, I, by my authority, and that of the whole University, grant thee permission of undertaking in the Faculty of Arts, of lecturing, disputing and of doing all other things, which pertain to the same Faculty, when the requirements of the statutes are fulfilled. In the name of God, the Father, Son, and Holy Ghost." And at these last words he bares his head "with the customary reverence." Until a comparatively recent date candidates, before receiving their degrees, were obliged to take an oath that they would not lecture at Stamford. This was because, away back in the reign of Edward III., there was a secession of professors and students to Stamford. They were induced to come back, but lest there might sometime be a similar secession, this oath was required of all those holding degrees. And because Oxford has a dislike of ever giving up anything, she continued to exact it until a time within the memory of persons now living.

Beyond the Master's degree no appointment to the Faculty is necessary. By this degree one becomes a member of the Faculty of Arts in the university, and continues to hold this position so long as he pays his dues. Of course many holders of degrees do not choose to remain in Oxford and teach, but anyone who does so choose may do so. The professors are otherwise appointed, but it is the tutors who do the bulk of the teaching. The function of the professors is to advance the bounds of human knowledge rather than to teach.

The governing body of the University consists of two Houses—Congregation and Convocation. The former includes all residents M. A.'s; the latter all M. A.'s anywhere. No important changes can be made in the University save such as are approved by Congregation and ratified by Convocation. Hence no radical measure can be carried, until not only the university, but the country at large is converted to it. And the conversion of country squires and country parsons is a slow process.

The Houses of Congregation and Convocation are very impatient of speech-making. Everyone has made up his mind how he is going to vote; he does not wish to listen to speeches and arguments, but to vote and go home. Speakers are constantly interrupted with cries of "Sit down! sit down!" "We want our tea at four o'clock," and so forth. So to obtain a hearing, it is necessary that the dons print their remarks and send them around before the meeting. This they do at times quite freely. The manner of voting is as peculiar as everything else in Oxford. The proctors carry around two long strips of paper. At the top of the one is the word "*Placet*"; at the top of the other "*Non placet.*" Each man as the proctor comes around to him says "*Placet*" or "*Non placet,*" according as he wishes to vote for or against the measure. The proctor punches a hole in the proper strip, and when all have voted the number of holes in each strip is counted to obtain the result.

The great day of all the year at Oxford is that of the Encænia, or Commemoration of Founders. The exercises are held in the Sheldonian Theater. The prize essays and poems are recited, and the honorary degrees are conferred. This last ceremony is most amusing. The great men are presented to the vice chancellor by one of the professors, who makes a long Latin oration telling what each one has done, and why he is to be honored. The undergraduates in the galleries keep up a constant jeering, which, as it seemed to me, is rather encouraged by the authorities than otherwise. I do not think that the things they say are especially bright. I am inclined to think that American boys would say brighter things. What makes the young Englishman's remarks so irresistible is that he says the sauciest things imaginable in the most polite manner possible. For instance, the vice chancellor of course wears his hat, only uncovering his head when the ceremony requires it. The undergraduates keep calling to him, "Take off your hat, sir! There are ladies present, sir! Take off your hat, sir!" A false quantity is always welcomed by a round of applause, and often there are false quantities which none save undergraduate ears can detect.

The stories are well known of how when Browning received his degree a red cotton nightcap was let down upon his head, and of how when Tennyson came up for his with his shoestring untied, he was greeted with the question, "Didn't your mother call you early enough, Alfred, dear?" I was present when a great literary man and statesman very popular at Oxford received his degree. The professor who presented him was interrupted by cries of, "Suppose you were to dry up, sir! We very often have a chance to hear you speak, sir! But there is a report that the gentleman is able to speak, sir! We would much rather hear him speak for himself, sir! Suppose you were to dry up, sir, and let the gentleman speak, sir!"

I have tried to describe the life of Oxford, but to understand it, it must be lived. When Max Müller was a young man in Germany planning his life's work, he came to the conclusion that the conditions under which it might best be accomplished were those of the mediæval monastery. And because he found these conditions more nearly approached in the English university than anywhere else, he chose to live and die as a Fellow of Oxford. That is what Oxford is—a place not only where boys can get an education, but also a place where learned men may pursue their studies amid peace, beauty, and leisure.

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ROSELLE, N. J.

V

SHORTER TIME IN ELEMENTARY SCHOOL WORK

In this discussion it is not assumed that children start to school before they are six years old, and in most cases they are actually between seven and eight before they are enrolled. The contention is that children of average ability will complete all there is worth knowing in a heavy course of study, such as is prescribed in the best elementary schools of this country, in seven years, if they are let out in their work and are not held back, and that they will be just as strong in English grammar, United States history, geography, and arithmetic as they are in an eight years' course. An ounce of fact where it has been tried and tested for more than a third of a century is worth more than a ton of theory, and it is on an experiment of this kind that the following argument is based. Educational questions cannot be settled in a year or two, and in an offhand way. A generation, at least, is necessary to tell what the outcome of an educational experiment may produce when tried along safe lines.

History—The traditional course of eight years was entered upon in Ohio when the system of graded schools was in its incipient stage in that State, and American educators, having taken their clew from Germany, adopted the eight-year course as a working basis for city and town schools. This was tacitly agreed to in all the States as they organized graded schools, except in a very few towns and cities of the West. There soon sprang up a feeling in some quarters that children of fair ability and ordinary intelligence made very slow progress in their studies under the eight-year scheme, and that the work was cut out into too many very thin slices, so very thin indeed as to have little of either crust or substance in them. Superintendents, principals, and teachers generally worked along apparently well satisfied, unconscious seemingly that time was actually wasted. To question the eight-year scheme was regarded in many quarters as the worst sort of educational heterodoxy. In fact the grading business was carried on so far in some towns and cities that the eight-year period was spread out to nine years, and in some instance to ten years, based upon the plea that children entering at four, five, or six years of age should be kept in the leading strings for nine or ten years.

Enrichment period—Several years ago in different localities superintendents and principals actually turned their eyes to the inside of their schoolrooms and began to question seriously the courses of study, the relative value of the subjects, and other matters of vital interest, and soon they began to pitchfork in a little subsoil fertilizer here and there in the way of spiral physiology, physics, and chemistry in broken doses once a week, by having the grade teachers first load up and fire off squibs of knowledge for thirty minutes; meantime the pupils took notes, and then another half hour was devoted to what had been learned the week before; or, reversing the method of procedure, the questioning on the previous lesson came first, and the priming for the next week followed. This movement, and all that came out of it, depended upon the fact that the traditional course had been spread out so thin and so long that relief was absolutely necessary in order to avoid a regular stampede from the schools. The modern nature study that has now run wild is only an expansion of what was begun then. The movement is not epidemic thruout the country, tho it spread with violence in some localities, so that it is a question now in some schools as to what the course of study is—the regular branches prescribed by law, or the "pitchforked branches" so that the children are kept running to and fro in and the end of which is not yet in sight.

President Eliot's plan—Amid all this confusion, President Eliot years ago came before the public and advocated early specialization as a necessary condition in educational progress. From my point of view I always regarded this position as maintained by the distinguished President of Harvard as unsound in two particulars, namely, that there is no safe way of telling just what a young boy or girl will be best fitted for in manhood or womanhood; and secondly, that to specialize before one has sufficient knowledge upon which to specialize, is based upon a faulty method of intellectual procedure. I always suspected, tho it is merely an inference, that President Eliot used specialization as a stepping stone to something higher.

A few years later, however, he made another advanced step, and a long one at that, when he asked that the elementary school curriculum be enriched by injecting foreign languages, elementary algebra, and some other studies, and that boys who were destined to take a classical course of study ought to be transferred to the Latin schools without being detained unnecessarily two or three years in the regular elementary school work. Such doctrine, coming from a source so highly esteemed, attracted attention in all sections of the country, and there was a very general feeling that he had hit a sympathetic chord which was vibrating in many breasts. Whether it be the right one or not has little to do in this discussion, except to show that he had discovered the weak spot in the courses of study in operation in the elementary schools of this country, and that the children were kept doing a very little very laboriously for several years. Whenever a weak spot is found in a structure, the proper thing to do is to strengthen it at that point and make it the strongest one, if it can be done. Whether the remedy suggested by President Eliot was the best one under the circumstances is simply a matter of opinion. As I regard it, I think it was eminently worthy of serious consideration, and it was perhaps as good a solution as could have been suggested.

Superintendent Maxwell of New York nearly ten years ago proposed a six years' course for the graded schools and a six years' course for the high schools. His view was that the child in six years would get all that was really valuable in the graded work, and the six years in high school would round out and strengthen his scholarship better than under the usual régime.

President Butler, in his Minneapolis address last July, virtually took the same position in maintaining that time was lost in the upper grades, that is, fifth, sixth, seventh, and eighth of the ward schools, and also in the college course. As his address will be published in full in the Proceedings of the National Educational Association it is referred to here in order to give a connected sketch of the subject, and the place it holds in this far-reaching discussion. However, the first time that President Butler expressed himself clearly upon the time element was at the Cleveland meeting of the Department of Superintendence in March, 1895.

Retardation in school work—From some statistics investigated by Superintendent Soldan of St. Louis about three years ago he came to the conclusion somewhat hesitatingly that retardation occurred in all the four lower grades, and not the four higher grades, as was generally believed, but that the sixth, seventh, and eighth grades indicated a decided acceleration in time.

Time in the Kansas City Schools—The Kansas City Public Schools were organized upon the hypothesis that the child of average ability could complete the work in the elementary schools in seven years. That was then a departure from the schedule time in all the large cities of our country, which is eight years, each year consisting of ten months. Here the school year is nine months, and the difference in time for completing the work before entering high school is seventeen months, and the total difference in school months thru the ward school and the high school is twenty-one.

Another factor, a climatic one, had considerable to do in causing us to change from a ten months' session to nine months. Usually, when winter leaves, hot weather bursts suddenly upon us, and not infrequently half of September is as sultry as August. With the thermometer "up in the nineties," either at the close or at the beginning of the school year, the teachers and the pupils are not in the best physical condition to do effective work.

Beginning school two weeks later and closing two weeks earlier, teachers and pupils work more energetically and with far less exhaustion of the vital forces. It is also an incontrovertible fact that the attendance during the last month of school under the present system is much better than when the time was ten months. The withdrawals are less frequent among all classes.

Turning aside from the consideration of these outside influences, the question naturally arises: Can the child of average intellectual power do eighty months of school work in sixty-three months? This proposition may at first appear startling, but in reality it is not so. All the pupils in the elementary schools are at work for 5 1-4 hours each school day in the year except the first and half of the second grade. The children work a longer number of hours each day, and what is lost is made good by more intense and longer work each day, so that when the whole number of hours per year is taken into account, the discrepancy is not so great.

Examination tests—The only effective method, and the one that has a long line of precedents back of it, was to give the pupils in our seventh grade such tests as had been used in different places to indicate scholarship, and these tests have been freely and frequently employed for a long series of years and with most gratifying results. I have submitted West Point examination questions, Regents' questions for the State of New York, Teachers' examination questions, city examination questions, Civil Service questions, uniform State examination questions, etc., in all the common branches, particularly in English grammar, geography, United States history, and arithmetic, and our seventh-grade pupils have uniformly stood high. In addition to this I have submitted special tests from superintendents of other schools so as to compare the results. In the lighter subjects of composition, drawing, music, calisthenics, reading,—whether by sight or lessons that had been previously studied,—we are always ready and anxious to enter the list against any city school in the entire country. As to tests of this kind, I know there are those who do not value them—in fact who do not put any stress on scholarship in any form except power to do something, I know not what. In concluding this, I will say that the questions given to our seventh-grade pupils this year and to the sixth grade in geography were the uniform questions prepared for the State of Indiana.

The element of time—The first investigation that I instituted in a thoro manner for determining how long it took for pupils to complete the work on schedule time was in 1885. In a system of graded schools there are four groups of pupils:

(*a*) Those entering school for the first time;

(*b*) Those who have finished the lower work and are "up to grade";

(*c*) Those who are able to go more rapidly than the average class, and are the subjects of individual or special promotion;

(*d*) Those who have fallen behind in the regular class work and cannot keep up.

Only in rare instances, if a pupil is regular in attendance, does he fail to pass. The work laid out for each term or year is what the child of average ability is capable of doing, and the pupils for working purposes may be thrown for convenience of treatment into three classes:

(1) Those on schedule time;

(2) Those ahead of schedule time;

(3) Those behind schedule time.

This division implies three different kinds of school phenomena to be investigated and to be accounted for, so that the conclusions in each case would square with the premises involved. In furtherance of this conception, in the latter part of the school year of 1885, each pupil in the sixth and seventh grades was handed a slip of paper and requested to write answers to the following questions:

1. Name and age and when first started to school.
2. Number of years attended school.
3. Number of years attended Kansas City public schools.
4. Number of years attended other schools.
5. Number of years lost on account of sickness or irregularity.
6. Number of times put back in studies. Where? By whom?
7. Number of times failed to pass at examination.
8. Age May 31, 1885.

Five hundred and ninety-six pupils wrote replies to these questions, and in each room I examined carefully all pupils reporting themselves ahead of or behind schedule time, and while in a very few instances I had reason to suspect the accuracy of the statement submitted in writing, yet I am satisfied that at least ninety per cent. of the answers given were entirely reliable, and that the remainder were accurate enough to indicate all facts necessary to aid me in forming a proper estimate in regard to time and the work set apart for it in our schools. The history of the child in the schoolroom is his own daily experience, and he treasures it up with surprising accuracy, and each pupil had a clear, definite notion of when, where, and in what grade he lost time, and he could give an intelligent account of the conditions.

Of the 596 pupils examined, 247 were on schedule time. That is, they would complete the ward-school course in seven years of nine months to each year; 182 were ahead of time, and 167 were behind time.

The result may be expressed as 72 per cent. on time and ahead of time, and 28 per cent. behind time. Of the 167 behind time, or those who were obliged to remain in ward schools more than seven years, the following causes embraced all cases:

(1) Forty-four lost time on account of sickness.

(2) Thirty on account of irregularity.

(3) Thirty-nine on account of changing school; that is, in changing from private school to public school, or the reverse; or in coming from other public schools to ours.

(4) Fifty-four had failed and had to go over the work again.

Examination of 1886—In order to obtain more definite information in regard to the pupils belonging to the seventh grade in the ward schools and expecting to enter high school in September, the following card was handed to each pupil, with the request that he answer each question in writing. The pupils under the direction of the principals and myself cheerfully complied with the request and filled and signed the cards, of which the following was the form:

(1) Age when entered school.
(2) Age June 1, 1886.
(3) Number of years attended Kansas City public schools.
(4) Number of years attended other public schools.
(5) Number of years attended private school.
(6) If ever put back in your classes, give reasons.
(7) How much time have you lost from school?
(8) Could you have gone over the work more rapidly?
(9) Were you held back in your studies?
(10) Did you have too much or too little school work to do?

The number of seventh-grade pupils who intended to enter high school and reporting was 213, of which 61 were on time, 58 ahead of time, and 95 pupils behind time; 81 had lost time in changing from private to public school, and on account of changing residence from one town to another, or on account of sickness, or irregularity of attendance, while the other 14 were slow pupils. With those behind time, seven years and three months would put nearly all on time, and only one would have required eight years.

Examination of May 26, 1893—This examination included 11,213 pupils, whose standing at the close of the school year was as follows:

(*a*) Two hundred and sixty-one pupils were ahead of time; (*b*) 8933 were on time; (*c*) 1334 were eighteen weeks behind time; (*d*) 705 were twenty-one weeks behind time. The *course of study* contemplates the finishing of certain portions of school work each twelve weeks. Some bright pupils are able to complete the work of a term in less than the prescribed time. Such pupils are specially promoted to a higher class if it is thought advisable to do so.

The next year twenty-five principals of ward schools were requested to examine and report how many pupils in the fourth, fifth, sixth, and seventh grade would complete the year's work in each grade mentioned. There were 8229 pupils included in this list; 6519 were on time; 1657 were three months behind time; 268 were six months behind time; 143 were nine months behind time. To put this result in a more practical form, of every 100 children then in the ward schools, 75 had done a year's work in nine months; 20 would require twelve months, and 3 fifteen months.

It would be repetition of the same items slightly varying to present the results each year, so I will omit a part of the years intervening between 1893 and 1902, altho I have the data for the entire period.

Record for the school year ending 1898-99—In the seventh-grade class were 1139 pupils, and 988 of this number were promoted to the high schools, and 151 were not promoted; there were 1569 in the sixth grade, of whom 1118 were promoted to the seventh; there were 1772 in the fifth grade, and 1279 were promoted to the sixth. Of 2468 in the fourth, 1867 were promoted to the fifth; of 2900 in the third, 2366 were promoted to the fourth; of 2862 in the second, 2399 were promoted to the third; of 3655 in the first, 2867 were promoted to the second. This takes account of the pupils who remained in school till the close of the school year. The figures indicate the greatest variations in the fifth and sixth grades. It should be borne in mind that pupils of the first grade enter school any time during the year, so that some are first grade who have not been in school perhaps more than three months, yet they are counted.

In 1901—Of 1464 pupils in the seventh grade at the end of the year, 1229 were promoted to the high schools and 235 were overtime. Of 1646 promoted from the sixth to the seventh grade, 1387 were on time, and 257 were overtime; of 2283 promoted from fifth to the sixth grade 1842 were on time, and 441 were overtime; of 2885 promoted from fourth to fifth grade, 2243 were on time, and 642 were overtime; of 3279 promoted from the third grade to the fourth, 2906 were on time, and 567 were overtime; of 3291 promoted from the second grade to the third, 2815 were on time, and 476 were overtime; of 3967 promoted from the first grade to the second, 2989 were on time, and 978 overtime.

In 1902—Out of 1344 in the seventh grade, 1171 were promoted to high school on time, and 173 were overtime. Of 1868 promoted from the sixth to the seventh grade, 1500 were on time, and 368 were overtime; of 2397 promoted from the fifth to the sixth grade, 1987 were on time, and 410 were overtime; of 3212 promoted from the fourth to the fifth 2396 were on time and 816 were overtime; of 3261 from the third to the fourth, 2800 were on time, and 461 were overtime; of 3487 promoted from the second grade to the third grade, 2944 were on time, and 543 overtime; of 3963 promoted from the first grade to the second grade, 3716 were on time, and 247 were overtime.

These statistics running over a series of several years indicate beyond a doubt that the average pupil has done and can do the elementary school work in seven years, and does it well, in fact just as well and as intelligently as it is done by those whose rate of speed is one-seventh slower.

Before taking up the influence that a seven years' course has upon increasing the attendance in high school, I will present two other factors which have a strong bearing on the education of children, to wit, the course of study and rushing children thru school.

The course of study—A course of study is a way blazed out to guide teachers as they conduct their pupils along the pathway which leads from ignorance to knowledge. It should prescribe the minimum amount of work for the child of average ability, and what he is capable of doing when working under a fair degree of regular but healthy pressure. A course of study should not be made like a garment and the children fitted into it, but it should be developed by degrees so as to fit the children; in other words, the course of study is for the children, and not the children for it. A course of study must be a growth, or gradual development, and is never a "patented machine" with all its parts perfectly adjusted to one another. In one sense it is a living, growing organism, which has expanded in different directions, some of whose parts may require clipping or enlarging, owing to circumstances. Bad is it for the pupil whose teacher knows in advance just what the pupil will become.

The course of study best subserves its purpose when it is regarded as a working model, not to be interpreted literally, but having sufficient elasticity to allow the utmost freedom consistent with good work within reasonable limitations. The basic principles constituting every course of study for the common schools should be reading and spelling, arithmetic, grammar and composition, geography, and United States history, and upon these eighty per cent. of the children's intellectual energies should be expended. In so far, however, as courses of study have deviated from these elementary branches, have sound scholarship and the character of the schools been lowered. Two extremes are to be avoided after a course of study is mapped out; the first is that of absolute perfection as it sprang from the brain of the framer, and the second is the continual itching to change because of the novelty of a new creation. All courses of study should be general, not too specific in their character. Just as soon as specific doses of instruction are hourly, daily, weekly, monthly, and yearly prescribed, and are duly administered in appropriate boluses to the pupils, just so sure will nearly all important matters be neglected, the teachers be degraded to schoolroom pharmacists, and the pupils practiced upon as helpless victims. I know of no better way to kill both teachers and pupils than by over-prescriptions and proscriptions.

Rushing children thru school—There is an uneasy desire to ruch children thru school—a tendency widespread in its nature and very far-reaching in its consequences. It springs from the haste that we manifest in all enterprises in which we engage. In nearly all matters of public and private interest undue haste is everywhere apparent. That this idea should creep into the educational system of this country, from the highest to the lowest, is a serious matter for regret. Hothouse scholarship has no element of real scholarship in it, such as marks the highly disciplined mind. There are gifted individuals here and there who, apparently, set all rules and restraints at defiance, and who reach at a single stroke what requires persistent effort for months or years for the average mind to grasp. But these are rare exceptions. They are speed horses of the human race. For such there are no rules by which they can be properly governed. They are a law unto themselves.

If we bring our reflections into a narrower range, we find the idea of getting thru certain subjects without mastering their essentials is one of the many phases under which unreasonable haste manifests itself. Children should never be permitted to lag along lazily in their studies, nor rushed thru them at a hand-gallop. One subject well studied, thoroly mastered, and properly assimilated by the pupil, is worth more than a half dozen subjects surface skimmed. There is another phase of this subject that requires no little attention, and that is this: few teachers seem to have adequate notions of the working power as well as the enduring power of children. What hurts a healthy child is to keep it doing nothing, or next to nothing. Such a child needs to work and to work vigorously, but also the work ought to be changed every half hour or so. Following such a course, bright and fresh thoughts are generated. The same enthusiasm that the healthy child puts into play should also be present in school work. It is a good sign when the true teacher reports such pupils or classes as "good workers."

That many teachers underestimate the working capacity of their pupils must be evident to anyone who will investigate the matter carefully. In questioning pupils as well as classes, I have been frequently told when I ask the questions beyond what the children are supposed to know, that "they [the children] have not had that yet," and then, by a series of questions adroitly put, succeed in bringing out the very information of which they were supposed to be ignorant. This may be accounted for in two or three ways, (1) the manner in which the teacher had attempted to elicit the fact, (2) in using language that the children did not understand, (3) in not giving the children credit for knowing some things they had learned outside of the schoolroom.

Three things are to be avoided—extreme haste, extreme waste, and snail progress of the pupils thru the school. Nature is a far safer guide to follow in the education of children than any other. Only in exceptional cases does it "beat time."

A child must grow 365 days to be one year old, and it cannot reach its tenth birthday till it has lived ten full years. A three-year-old colt, under natural laws, must live longer than two years and not less than three to be of that age and solidity. Under extraordinary conditions the hothouse plan of unnatural stimuli may be applied, but whenever it is, it is always at the expense of the physical and mental qualities of the child. The conditions involving endurance in children cannot be estimated by any definite kind of numerical computation, and the best that is possible is a sort of tentative process for each individual. Parents and teachers can gauge deleterious consequences, and the limit thus approximately determined may be approached, but not passed beyond without danger.

Can a man make himself over? Can a leopard change his spots, or the Ethiopian his skin? What answer does education give to this question? Is there a strong typical resemblance among educated people of all kindred nationalities, as there is said to be among the thieves of Europe and America? If there be those who need remodeling, can they be remade by the aid of educational surgery? All these questions, when stripped of superfluous matter, simply mean that if we would produce a better class of people than any now existing as a nation, we must insinuate into hereditary influences noble aspirations that will counteract or re-enforce the transmitted traits. To work upward the lower strata of human nature higher motives must be substituted for lower ones, that the mind may be moved by feelings leading to that high conception of things that has stimulated the great and the good of all ages. Under whatever name this work is undertaken, it is teaching. The teachers accept the human material sent to them, and if it is faulty, they endeavor to improve it by application of such influences as they have control of. That general vagueness, called humanity, has transmitted with the life of each individual both good traits and pernicious ones, in the formation of each one's mental and physical equipment, the accumulated inheritance both of mechanism and function—so that education is a destroying process going hand in hand with the building-up one. Unless the forces of education be moved in the right direction, the child may be injured, when the aim is to help him. The child must be docile—that is, in the right frame of mind, susceptible to the learning influence; and if not, then the teacher must bring about the necessary change thru the mediums of skill and patience. The possible variations may arise—the teacher becomes impatient, or the pupil grows intractable. Either is fatal unless the evil is removed. A keen analyst can hardly tell which is the more dangerous. A teacher's impatience may be controlled; if it is not, usefulness is gone. Heroic treatment is demanded for the intractable pupil in order to bring into active operation a better attitude of mind. Should the pupil be defective in receptive power, whether of his discipline or instruction, the teacher must first bring to bear such a force as will, if possible, produce the desired result. Great is the teacher who reads human nature as it is. Youngsters may be sent to school perfectly docile, or as untamed as young tigers, but the solvent, kindness, will tame the ferocious hyena as well as the more kindly disposed animals. Unless the mental deficiencies are extremely abnormal, the savage nature of the most refractory child will yield to the same subtle influence. What is herein indicated may not reach every case, but it will win most of them, leaving a small remnant—the incorrigible—to suffer the consequences of their own folly. No provision, it may be argued, is left for those sudden explosions of anger which sometimes burst forth without a moment's warning—crimes, as it were, without malice aforethought, that need immediate attention. Such ebullitions of passion are exceedingly rare, and unless they lead to manslaughter, or the brandishing of dangerous weapons, I am still of the opinion that it is better in applying the proper remedial agents, to proceed at a very moderate pace. Universal experience is that one heated by passion will probably act unwisely. By slow degrees, then, the character may be largely modified by neglecting or suppressing certain personal traits and stimulating others. In this sense pupils may be remodeled. To indicate the path of action is as much as can be done to encourage and inspire the thoughtful teacher.

High-school attendance—As a result of a seven years' course of study in the elementary schools of Kansas City, the enrollment of pupils in the high schools is greater than in any other city in this country, unless it be Springfield, Mass., in proportion to the total enrollment of pupils in the public schools, or in proportion to the entire population of the city, and the number of graduates from the high schools is higher in proportion to the total school population enrolled, or in proportion to the entire population based upon the United States Census, than in any other city of the country. To substantiate these assertions I herewith submit the statistics for the past four years, and to which I invite the attention of city superintendents of all other cities of this country having a population of 100,000 inhabitants or upwards.

Beginning with 1899, the total enrollment was 27,314 pupils; enrollment in high schools 3116; in 1900 the total enrollment was 27,553, enrollment in high schools 3464; in 1901 the total enrollment was 28,280, in high schools 3602; in 1902 the total enrollment was 29,194, enrollment in the high schools 3732. Expressing the ratio of the high-school pupils to the whole enrollment, in 1899 it was 11.4 per cent; in 1900 it was 12.5 per cent; in 1901 it was 12.3 per cent; in 1902 it was 12.7 per cent.

The graduating classes for the corresponding years were as follows: For 1899, 300; in 1900, 387; in 1901, 440; in 1902, 486. The population of Kansas City, according to the United States Census of 1900, was 163,752, and now it is about 175,000.

How time is gained in the elementary schools—By keeping the children moving forward in their studies, and by attacking principles instead of fooling around on unimportant details which confuse and unsettle clear and definite ideas that should be firmly fixed as working centers. I cannot better illustrate this thought than by referring to the analysis of sentences in the English language, upon which children in the grades spend so much time uselessly. By getting hold of the few essentials elements in sentences, and there are never more than three of them in one sentence, then the modifying elements, which are of two kinds, and the connecting elements,—the thing is done. With children of average ability in the fifth, sixth, or seventh grade, I will agree to teach them in three weeks all the essentials in the analysis of sentences in English so that they will have no trouble, unless it be with " idiomatic expressions " which may be susceptible of several interpretations. Much of what I have herein outlined can be taught to children in the fourth grade, and they will enjoy it, too. Instead time is wearisomely drawn out and the delicate web is spun for two or three years in doing what, if sensibly attacked, can be just as thoroly done in as many weeks. There is perhaps greater waste in teaching arithmetic with all its useless and irrational verbiage. All that I can do here is to refer to these matters and denounce the methods that are "time-wasters." In hundreds of instances the children have told me that nine-tenths of their trouble and bother in arithmetic came from the way they "had to say the thing," and not from the work and the answers. Instead of letting children work out a dozen or twenty examples at a recitation, the whole period would be spent in checking up the pupils' language, or in putting the solution into shape after the entire process had become frozen. On a rational basis of teaching, the time in arithmetic can be cut down at least two-sevenths, perhaps more.

Summary—1. It has been shown that pupils can complete and do complete a strong course of study in seven years, and that they stand just as high tests as do these who are on corresponding subjects eight years.

2. That more pupils are in our high schools than in any other large city in the Union in proportion to the total enrollment of pupils, or in proportion to the total population of the city.

3. That a greater number of pupils graduate from our high school each year, on the same ratios, than in any other large city.

4. That in point of scholarship, the children that have been educated on the eleven-year scheme are just as well prepared to enter higher institutions of learning as are those who spend twelve or thirteen years.

In conclusion, I have submitted facts and I leave it to others to digest them.

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VI

HYGIENE AS A FACTOR IN EDUCATION

Notwithstanding the importance with which sanitation is generally regarded, it must be admitted that the teaching of hygiene is a neglected subject in our educational system. Perhaps "neglected" is too strong a term to apply here, for hygiene as a definite branch of applied science is a subject of such recent growth as scarcely to have had time to make its objects and methods thoroly understood.

The following remarks, based on personal experience in seeking to obtain the training of an expert in hygiene and on a recent review of the status and prospects of sanitary instruction in the United States, are intended to point out some of the practical lines upon which the teaching of hygiene can be advantageously developed.

Hygiene in the schools—Here and there among the schools the importance which attaches to at least an elementary knowledge of physiology and the laws of health appears to receive some recognition. A good many schools provide reading lessons or brief courses of recitations on the principal functions of the body and the sanitary aspects of diet, clothing, exercise, and ventilation; but for the most part this instruction is open to the criticism of being perfunctory, superficial, and lacking in vitality. It is to be noted that the cause of temperance is often confused with that of sanitation. The difficulty seems to be that most of the teachers have had no personal training or practical experience in the broader and more scientific bearings of hygiene, while their care of the pupils in the classroom and their conduct in and out of school are often in disagreement with the principles advocated in the books. Under these circumstances it is not strange that pupils should come to regard the study of hygiene as lacking in interest and practical significance.

Yet there is nothing about the study of the sciences at the foundation of hygiene, nor in the practical applications of the subject, to make it dull. Chemistry, biology, bacteriology, physics, and sociology all permit of the most entertaining exposition, and the applications of these sciences to familiar customs of everyday life offer opportunities for very effective illustration. Proof that it is feasible to make the teaching of hygiene highly attractive and profitable, even to very small children, has been given in English and German schools. An excellent paper by Miss Ravenhill in the *Journal of the Sanitary Institute of Great Britain* for 1899, describes in detail methods which may be used in accomplishing these results.

The preparation of teachers—Careful investigation of the question shows that the greatest need in the teaching of hygiene is the need of facilities for the instruction of teachers. In England school-teachers qualify themselves for teaching physiology and hygiene by taking a course of thirty or forty lectures, upon the completion of which they receive a certificate showing the nature and extent of their training in this direction. Nothing of this sort is available in the United States for the great majority of teachers. School-teachers are not expected to have an extensive knowledge of hygiene, and it is regrettable to observe that those who have taken the trouble to secure a thoro preparation in this subject receive no suitable recognition for their work.

There is no clear reason why a certificate of proficiency in hygiene should not have a pecuniary value and a diploma in sanitary science be worth something in the way of additional salary, for such training gives assurance that its possessor has an equipment which can be made of the greatest service. But until public educators come to realize the physical and moral importance of hygiene by making its teaching more general and scientific, the demand for the services of persons who have had this kind of instruction will be limited, and the great majority of teachers will find it more profitable to equip themselves in other lines.

Facilities for higher training in hygiene—The facilities offered in the United States for higher instruction in hygiene are but little better in character than those found in the schools. University students are but rarely compelled to study sanitary science, and it is entirely possible for a graduate receiving the highest honors to know next to nothing of the laws of health, upon which his very existence depends.

Nor is it easy for those who have the inclination to obtain satisfactory instruction in hygiene. Practically the only way for a student to make a serious study of sanitary science is to take advantage of the elective privilege offered by the universities and make a judicious selection of the courses which appear to have the most important bearing upon the subjects with which he desires to become familiar. Even then the proper facilities will often be lacking. Expert hygienists thoroly qualified in all the sciences which pertain to their subject are rare, and the university laboratories in which investigations in hygiene are regularly carried on can be counted on the fingers of one hand.

A committee of the American Public Health Association, composed of eminent health specialists, after giving two years to the study of sanitary instruction, have reported on the amount of attention which, in their view, should be given to this subject in order to obtain the training necessary for various purposes. The committee recommends that a short series of elementary lectures on personal hygiene and sanitary science, particularly as these subjects relate to the prevention of infectious disease, should be available for all students in the various faculties of universities. In addition, an advanced course in hygiene should be given to all students in universities and colleges, to include not only personal hygiene, but such instruction in municipal, State, and national sanitation as would give them an intelligent and sympathetic interest in all measures relating to public health.

The committee considers that sanitary engineers should have at least a year's scientific training in hygiene, including laboratory instruction in sanitary chemistry and bacteriology, sanitary law and administration. Expert sanitary chemists and bacteriologists require at least two years' special training, with a certificate of a year's service as assistant in this special line of work. School-teachers should have a certificate showing that they have attended a course of thirty or forty lectures especially adapted to help them carry out intelligently such measures as may be necessary for the welfare of the pupils under their charge. Supervision of the health of schools should be intrusted to medical school inspectors, who should have special knowledge of school hygiene and the diagnosis of infectious diseases, and be specially trained in making examinations as to the sight and physical condition of pupils and the regulation of such gymnastic exercises as are appropriate to the case. The examinations and certificates of sanitary inspectors and inspectors of food, as given by the British Sanitary Institute, are indorsed. Such examinations require a general education and evidence of having attended a course of from twenty to forty lectures with practical demonstrations.

The training of health officers—But if school children, teachers, and university students find a lack of proper facilities for the study of hygiene, what is to be said of the training of that important class of officials charged with the responsibility of guarding the public health? As a rule, no training whatever is required of health officers by law, and no provision is made by municipality or State for their instruction. Excepting in Vermont, and a few other States, it is impossible for health officers to obtain any preparation for their work except such as they may themselves elect in special courses at the universities. In England the degree of Doctor of Public Health is especially intended for health officers, and adequate courses of instruction in the latest practices in sanitation and preventive medicine are in reach of all. The requirements which must be satisfied before the English degree of D. P. H. is conferred indicate the character of the training which in the opinion of the committee of the American Public Health Association it is needful for this class of experts to obtain. As at present constituted, the requirements for the English diploma in public health stipulate that the candidate must be a physician and have had six months' scientific training in hygiene, including sanitary law, sanitary administration, laboratory instruction in sanitary chemistry, bacteriology, and the study of preventive diseases; in addition he must have served six months as an assistant to a medical officer of health.

Sanitary instruction in medical schools—Inasmuch as the tendency of medical practice is to seek and remove the causes of disease, it is surprising that the medical schools have not accorded hygiene a more important place in their schedules of instruction. It is interesting to note the views of President Eliot of Harvard on the present status of this subject and the necessity of increasing the share of attention now given to hygiene in the medical schools.

In *Educational reform,* President Eliot says:

> Pathological exploration has taught us the approximate causes of several important diseases, and, therefore, has taught us where to seek their sources, altho, indeed, the pure cultures of bacteriology do not occur in any such simple and isolated form in the actual environment of men. We have learned much about the transmission of disease thru drinking-water, ice, and milk. We understand better than ever before the intimate connection between some diseases of animals and diseases in man. We are put on our guard against the long-lived scales or flakes of scarlet fever, the sputa of tuberculosis, the stools in typhoid, and other excreta of diseased persons. Nevertheless, few physicians seem to be capable of tracing to its source an epidemic of typhoid fever, for example, or an outbreak of scarlet fever or diphtheria. I have been told, both in this country and in England, that this faculty is rare among physicians, so that health authorities are obliged to train specialists for such service. It seems as if every physician ought to be guardian of the community in this respect, capable of rendering the promptest and most effective service at a moment's warning. Yet to be equipped for such service means thoro acquaintance with the most recent developments of preventive medicine, and with the newest methods of research which chemistry, physics, and biology have at command. Such duties are sometimes spoken of as extra-professional; but that term, so applied, seems to restrict the medical practitioner to the mitigation, or cure, of disease, without recognizing his more important function in the prevention of disease.
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> The progress of preventive medicine has imposed on physicians a new class of duties, and there is an infinite amount of teaching to be done in regard to all these subjects.

Careful analysis of the courses of instruction offered by medical schools shows that the amount of attention given to hygiene is insufficient for a thoro knowledge of the subject. The committee of the American Public Health Association on the teaching of hygiene, reports that an expert knowledge of hygiene cannot be obtained by graduates of medical schools as now constituted in the United States in less than two years. The student should have a thoro grounding in all branches of hygiene such as might be covered in a course of forty or fifty lectures and demonstrations, together with some elementary laboratory work in hygiene and some practical training in sanitation, such as disinfection, house inspection, etc. A more advanced optional course should be given to students who wish to study the subject more deeply. A diploma course, open to post-graduates, should be available for those who wish to become specialists in hygiene.

Outlook for better instruction—Nothwithstanding the present unsatisfactory status of the subject of sanitary teaching, the outlook for better and more general instruction in hygiene is not discouraging. The subject so richly deserves to be taught in the primary, secondary, and higher schools of learning that it is impossible to believe that this fact will not soon bring itself to the intelligent consideration of American educators. The great commercial developments which we are witnessing, and the extension of American influence and power into the unhealthy regions of the tropics and far East, furnish an especial reason why the study of hygiene should from this time receive more attention than has hitherto been accorded it.

The last ten years have been remarkable for the pecuniary encouragement given to education in the United States, especially in the line of classical, professional, and technical education. It is estimated that the amount of money given by individuals during 1901 for universities, colleges, schools, libraries, and similar purposes was over one hundred and seven million dollars, while in the last nine years the amount was over four hundred and twenty-one million dollars. It seems not too much to hope that the educational stimulus which such immense contributions have given to other branches of learning will have some effect in arousing interest in the subject which we are now considering, and that the teaching of hygiene is destined to receive not only better recognition, but to be ultimately regarded as an indispensable factor in our educational system.

It is believed that American philanthropists whose purses have so often and so generously opened to advance the cause of human knowledge and welfare, have failed to appreciate the opportunities which have lain before them in promoting the cause of sanitation. Every school, college, and university should have a carefully developed course in hygiene. Every parent who sends a son or daughter to these places of instruction has a right to expect that this fundamental subject of life and health shall not be neglected. Competent teachers are needed to instruct the children and youth of the land in the practical business of living wholesome and healthy lives; sanitary engineers are needed to build sewers and waterworks, drain lands, and lay out and clean cities in accordance with modern principles; sanitary architects are needed to build healthy dwellings, hospitals, schools, and factories, so that the great class of people who are unable to look out for themselves shall be suitably cared for; medical officers of health are needed who shall be familiar with the most recent developments of preventive medicine, and who shall be thoroly equipped with the best methods of investigating and removing the causes of epidemics; the family physician should be given that knowledge which, as President Eliot says, shall make him the guardian of his clients in the prevention of disease.

It is difficult to conceive of a more philanthropic use of money than the endowment of chairs of hygiene in universities and colleges where the scientific principles of sanitation can be taught and the useful applications of the subject demonstrated. From such fountainheads teachers, health officers, sanitary engineers, physicians, and investigators would take their inspiration, and the most substantial help would be given to the propagation of the gospel of health.

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VII

PATERNALISM IN COLLEGE ATHLETICS

The dean of the faculty of a certain large university devoted the greater part of his time in a recent autumn to the investigation of the amateur standing of football players in his own and rival institutions. While the discovery of truth is perhaps as difficult in this field as in any branch of science, it is needless to say that from a serious point of view this was a *reductio ad absurdum*. Behold boards of control, athletic committees of the faculty, college presidents, in various parts of the country, engaged in like investigations, in managing by proxy, in wrangling with students, in "athletic" conferences! "What good came of it at last?" in the words of little Peterkin. This does not in any way imply that there has not been great improvement in the tone of intercollegiate athletics, in the middle West especially, in the last five years, if not in the past year. But it is a question open to serious doubt whether this has been due to increased faculty control rather than to the vast improvement in public and collegiate sentiment, due in the main to the efforts of a few honest and fearless critics.

It is a matter of common agreement that one of the most valuable features, many would say the most valuable feature, of the life in American colleges is that life which lies outside the classroom and the definite demands of the curriculum—the self-developed student life. Distinguished graduates of Miami or Virginia openly profess more indebtedness to the literary or debating societies than to the course of study; the discipline of the playing fields, more than that of the college rules, makes captains in industry or war; a friendship formed on the "Fence" or by the "Cannon" proves to be worth more, in the best sense, than a bushel of Greek roots. The free life of the collegiate community makes good citizens. The freedom and spontaneity of that life should be encouraged in every possible way. College spirit, so called, is sometimes annoying when it leads to hooting the errors of a rival nine at a ball game, or the jostling of Chief Devery at his favorite midnight station, but in general it is one of the proofs of healthy college life, evidence that the student body is united with a common nervous system and circulation of red blood.

One of the important practical contributions of sociology to modern life is the emphasis laid upon the democratic idea, a healthy organism of individual parts, acting by a common will —a view which sweeps away kings and aristocracies, and, we may add, college faculties as supreme mentors in students' affairs. It is a great inspiration to the teacher when the sociologist tells him that altho the child and the youth are in one sense preparing for life, in another and perhaps more important sense they are already in active life and subject to its duties and disciplines. This view of the matter has led to many successful experiments in the lower schools, to actual self-government by the pupils in some cases, to throwing the pupils upon their own responsibility, with the idea of thus increasing interest, giving experience, developing character.

But in many colleges, during the last twenty years, there has been a tendency to greater paternalism in students' enterprises. In many cases there is more or less special supervision over musical clubs, publications, and especially over athletics. This has come about as these activities have waxed vigorous, have handled considerable sums of money, have advertised the institutions before the public. The case of intercollegiate athletics may be taken as the most prominent of these activities, as it is the one which is oftenest subject to faculty control. Is such control a panacea for healing athletic diseases or building up healthy systems of athletics where competition with other institutions is concerned?

Within the institutions more or less physical training has come to be recognized as part of the curriculum, and the proper department and its officers are scheduled in the catalogs. Athletic competitions, within the colleges, such as inter-class matches, club-boating, field-days, require little or no regulation; unfortunately they do not receive from faculties the attention, official or unofficial, which they deserve.

The legitimate objects of intercollegiate contests may perhaps be reduced to two: first, the maintenance of college spirit or patriotism, and second, the excitement of sufficient interest in athletics abroad to create an active interest at home. While the former motive is no doubt valued by college authorities, there is little evidence that the second—the more important—is recognized. When intercollegiate athletics are overdone, with long periods of training, bidding for promising athletes, drawing on professional schools, general athletic activity at home is killed rather than fostered. A pink-tea boat-race like that which Dr. Holmes described in *A moral antipathy* would encourage a lot more candidating than one of our modern contests "for blood." The intercollegiate contest is not the end-all; the desirable end is the bodily vigor of every student, the love of the open air, and what is implied in the word sportsmanship, a fine flower of culture. But these qualities are not gained on an observation train or in "painting the town red" after a football game—such things make sporting men, not sportsmen—but under the inflexible rule of the Spartans, "Strip and go." The old diurnal perennial foôtball of "Frater" and "Social" at Dartmouth, which the writer chanced to see a few times in his boyhood, was one of the best developments of college athletics he has ever known; is it still continued? The campus was a genuine college playground; no doubt similar conditions have prevailed at other colleges, notably at Princeton at the noon recreation hour.

Unquestionably the development of faculty control has been in connection with intercollegiate contests. Occasionally the bickerings of rival fraternities or financial difficulties, especially in smaller and newer colleges, have led to appeals for faculty support or assistance, but far more often it has been a case of interference on the part of faculties on account of the importance of contests with rival colleges. In many cases the magnitude of the financial operations involved requires that older heads shall counsel, and especially audit accounts—the writer has been told of one case where a manager made away with $1500 in spite of an audit; but unquestionably this service can be rendered equally well by alumni or individual members of faculties. Irresponsible extravagance must be checked, but deficits often bring salutary repentance for past sins.

In the next place, no doubt the pressure of opinion has, to a certain degree, led faculties to take certain measures calculated to improve the personnel of teams, but it will presently be shown that this is only by use of tests applicable to all students. In cases of athletic irregularities, one very familiar with this subject for twenty years can remember very few cases where faculties have applied the test of amateur standing to their own students; at least until the case was pointed out to them by a rival institution.

The great and preponderating reason why college faculties have taken so much official interest in athletics in late years is because colleges are rivals in business, and athletics are a very great advertising medium. Of course it is not true, as has been said, that the president of a great institution said to his "professor" of athletics, "Get teams together, and winning teams," but the immense value of the free advertising involved in sending out a successful team has turned many good presidents into casuists, and the late Army Investigation Commission could give many faculty committees "points" on getting at the real facts.

Some definite objections to faculty control may be stated. One method of control may be dismissed at once as neither good athletic policy, in the long run, nor even sportsmanlike. This is the method recently prevailing at a few institutions of employing professional managers, even dubbing them "professors." This is frank action, but it lies entirely outside the sphere of college professors to select a football squad or to arrange for a boat race with the State University of Porto Rico. There is just as much reason why the University of Metropolis should employ a Harvard man to manage its students' publications; would such a course encourage spontaneity or responsibility in the student editors? What should we think of it if Oxford University arranged the annual race with Cambridge thru a don, or a committee of dons, or, more strangely still, should employ a professional coach or manager to conduct the whole affair.

From the faculty standpoint there are three objections to anything like official control of athletics, the loss of time involved, the danger of loss of influence with the student body, the dwarfing influence of official interference with a common and natural student activity. The first may be passed over here; the other two may be considered together. There is real danger of loss of influence with the student body if, as may be maintained, the faculty authorities are interfering with what lies outside of their own proper sphere. But the positive side of this matter is far more important. The spontaneous activities of college life, such as fraternities, publications, musical clubs, athletic associations, thrive best when they grow from the root and when given plenty of light and air. The activities just mentioned, other than athletics, require no special committees of the faculty to regulate them, and athletics are certainly not a hothouse plant. From the point of view of the best development of sportsmanship and character, initiative and interest, faculty control is stifling and often wrong-headed. It is wrong theoretically; and that it is wrong practically may be proved by a comparison of the athletic development and healthy growth at Yale and Princeton on the one hand and, say, any two of the larger institutions where faculty committees are active.

As regards the suppression of professional tendencies, the writer believes that faculty control is absolutely harmful, for two reasons. First, the burden of responsibility for honorable conduct is taken from the student body and laid on the faculty, and the student body thereupon consider it rather good sport to pull wool over the committee's eyes; in other words, the committee are regarded in somewhat the same light as proctors at an examination, and a real attempt on the committee's part to investigate would get the same help from the students as a case of hazing.

Secondly, only about one man out of three in the average faculty can comprehend the simple definition of an amateur, and will insist on the application of that definition to a given team at a given hour. How often after weary explanations does one hear a worthy colleague, who hasn't an ounce of sporting blood in his veins, say "But yet why should not A earn his way thru college by using his muscles on the football team as B does by doing typewriting in the college office?" Again, Professor Alpha, of the Indigo State University, says "Oh, yes, we are all very particular about amateur standing; every man on our teams has been enrolled and paid his fees"; finally Tutor Gammon, who knows what's what, says, "Time enough for us to stiffen up when those bigger institutions of the State have cleaner athletics." In some old-fashioned institutions Dr. Zero can draw the line sharply between homoousion and homoiousion, but he cannot tell an amateur from a ringer, and the average president of the newer type can be as oblivious of facts and as slow to amendment as a railway president who is summoned before the Interstate Commerce Commission.

Not to enlarge further upon this matter, it may be affirmed that faculty committees on athletics, when active in intercollegiate matters, are pernicious in theory, in that they take responsibility from where it belongs; and even the paradox may be maintained that, if cases of irregularity occur, it is really the faculty which has to be brought to order, not the students. In nine cases out of ten the irregular athlete would be ruled out by the application of the ordinary college discipline as to entrance requirements, payment of fees, attendance, scholarship, etc. But he is enrolled in the School of Oratory and never attends exercises, or is taking one study, or has his entrance examination made easy, or takes several seasons to do one season's work, or action on his case is not reached until the baseball season is over; these cases are familiar to any college officer. There is one use of a faculty committee on athletics here suggested, to hold the faculty itself up to the mark on its treatment of athletic students. A lax morale in the athletics of an institution is an indication of a lax discipline in the whole institution. There is little reason, then, why athletics should receive special official attention from college authorities, tho they deserve the constant and enthusiastic attention, far more than they receive, of members of faculties as individuals. The ordinary tests suggested above will govern most cases. A moderate requirement of attendance, for example, will prevent long trips.

There is a phase of college athletics on which sweeping and universal faculty action, not temporizing by committees, would clear the air like a thunder shower in August. There is an heroic test of farsightedness, sincerity, and sportsmanship, which some of us, if it is applied in our lifetime, will welcome with a "nunc dimittis." This is the sharp limitation of the ordinary intercollegiate sports to the college departments. Let the professional schools have their own teams if they choose, and arrange their own competitions, but do not mix the good wine of young vigor and leisure with the harsher vintage growing higher up the hill. It is commonly reported that six of the most prominent candidates for the Harvard football team this autumn are graduates of other colleges. There was an athletic meeting at Yale College in the winter of 1879, when Harvard's proposal that students from the professional schools be admitted to college crews was finally accepted for the sake of getting one law-school man into the crew of that year. One likes to think how much difference the opposite decision, with the powerful influence of these two institutions and Princeton, might have made in the history of college sports.

There are one or two arguments in favor of faculty control which must not be disregarded. This is the only solution which has appeared to many intelligent critics of the situation; and the public, or at least the patrons of a college, demand that the college authorities shall prevent scandals. And it may be affirmed that the practice has worked well, that under faculty interference the athletic situation in the colleges has vastly improved. The arguments advanced in this article may be said to be a brief for "the well-known indolence of college faculties" or to be founded upon a one-sided view of the situation. As to the latter point, the only end the college officer can justly have in view is the permanent good of the student; in one sense all questions are to him pedagogical questions. From that point of view it would be better that a change, a reform, be worked out somewhat more slowly by building up the system of the patient than rapidly by violent remedies. The principle laid down is that an ordinary student activity like athletics is entitled, for its proper growth and health, to its own brains and nervous system as well as its own muscles. There is plenty of opportunity for members of college faculties, who are commonly graduates of the particular institution concerned and have often passed the "great go" of athletics, to show strong interest, to advise, even to reprove, but not to take over responsibility. As a matter of fact, it is very questionable if faculty interference is an effective check to scandal or a promotor of healthy athletics. The individual influence of a Lehmann or the lamented Newell, the fine courtesy shown especially in some of the international contests, do more to preserve and elevate the ethics of sport than a thousand regulations. The artificial and rickety fabric of athletics in some institutions where faculty control is most prominent, where with great difficulty a second eleven is got together, or a nine disbands in mid-season, goes far to disprove the apparent success of faculty management. And the unnaturalness of the situation can do no good in the long run. It may be said that when once athletics are firmly established on a pure basis, the faculty control may be withdrawn. This will be nothing but a case of high protective tariff upon some pampered infant of industry. The boy "brought up by hand," like Pip, has a very ineffective education. In truth, the average young collegian—already, be it remembered, of voting age—is able to exercise judgment in athletic matters fully as well as he ever can later in life. The college student may have an easy conscience, but he has a keener intelligence of what is the real essence of an amateur, for example, than the average professor. A professor in an excellent college, a thoro sportsman, and for many years officially conversant with college athletics, has said within a few months, "What is the use of all this bother about the amateur standing of our students? Why not admit all *bona fide* students to our teams, whatever their standing as amateurs? Why should the colleges be depended upon to uphold a shibboleth?" Such remarks, made in seriousness, imply either a dulling of sensibility thru long training in casuistry or a cynicism bred of disappointments, a consciousness that the situation is actually little improved.

Clean and healthy college sport is, in the best sense, a matter of ethics. Ethical virtue is a matter of reason, not of law. A good ethical tone in any community is secured by tradition and education, and is upheld by public opinion and intelligent criticism. Respectability does not depend upon, or follow upon, the size and activity of the police. In athletics let the full responsibility for the good name of the institution rest upon the students. There is plenty of opportunity for the influence of the faculty, as for that of the alumni, as individuals, or when appealed to for advice or support. There is a professor in Yale College who for thirty years has had more influence for the good of athletics than any committee under the sun. This never in his capacity as an officer of the college, but by the weight of his constant interest and high-toned sportsmanship. With a very few men of that character no college needs an athletic committee of its faculty.

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VIII

DISCUSSIONS

IS COLOR-BLINDNESS PREVENTABLE?

Color-blindness appears to have attracted scientific attention for the first time when Dalton in 1794 described his own case. Consequently it was known for years as Daltonism, and many explanations have been advanced to account for it. The defect is an inability to distinguish certain differences of color, the colors most often confused being red and green, tho failure to discriminate between other hues occurs occasionally.

Brewster and Wartmann suggest as a cause of this inability an unresponsiveness to stimuli on the part of the nerve-fibers of communication; Laycock asserts that the imperfect action of the optic nerve results in a cerebral deficiency. Goubert says, "La seule cause vraiment connue de l'achromatopsie est l'hérédité,—l'hérédité, comme Szokalski l'a montré, a lieu par les femmes, par les descendances féminines. Elles en reçoivent le germe de leur père et le transmettent à leur fils. Elles restent indemnes." But he frankly confesses his ignorance of the origin of the defect, of its mysterious preference for his sex; asserting in his interesting treatise *De l'Achromatopsie, ou Cécité des Couleurs* that it is "une anomalie du sens de la vue, congénitale, permanente, et jusqu'ici incurable," and insisting "sur le mot congénital et sur l'absence des lesions matérielles," a view of the subject with which Dr. Jeffries agrees.

Jeffries says in his report to the School Board of Boston, "Color-blindness is not curable by any known methods, and the color-sense does not alter thru life," tho he adduces no proofs of the latter statement. He also, like other writers upon this subject, remarks the extraordinary rarity of the defect in women. "It has been supposed, and even claimed, that exemption on the part of females from color-blindness was due to their familiarity with colored objects and materials. This will not, of course, hold with reference to the individual, for the color-sense cannot be changed by practice with colors. Whether generations of color-education have caused this sexual difference is a point to be remembered, as, if sustained, it proves we may begin to eliminate color-blindness from future generations of boys by teaching and practicing their ancestors. It must be remembered that our community and our school children are not different from others. Wherever in the civilized world examinations similar to my own have been carried out by competent observers, the same facts as to color-blindness and ignorance of color-names and their use have been found appertaining to males." He thus assumes, as do others who have tested the color-sense of children, an inherent and congenital incapacity on the part of the present generation of boys to train by practice their color-perceptions, an assumption which, I hope to prove, is not upheld by results where this practice has been systematically given.

Dr. Jefferies examined, some years ago, 27,927 school children in Boston, at a time when no regular color-training was part of the school work. Among the 14,469 boys and young men he found 608 color-blind, or 4.2 per cent. This average also held good of the male students in the Baltimore City College, who were afterward tested by him. Of the 13,458 girls and young women examined by him in Boston he found but 9 color-blind, a proportion of .6 of one per cent. He recommended most earnestly that color be systematically studied, presumably in the interest of future generations of boys, profiting by the slow processes of heredity, since he maintained that "the color-sense does not alter thru life."

Wartmann found 4 men in every 100 color-blind; Kelland, 3 in every 150; Seebeck, 5 in every 40; Prevost 1 in 20. Wilson found the proportion of the color-blind among Edinburgh University students 1 in 30, but among the soldiers of the garrison, 1 in every 17, and asserts that the defect is always *commoner among the untrained*. But all declare that color-blindness is general enough to constitute a real danger under many conditions, and is, under all conditions, a serious drawback to the usefulness and enjoyment of those unlucky enough to be thus afflicted.

Virchow, in addressing the International Medical Congress at Amsterdam, some years ago, asserted that savage races have no names for many colors and no power of discriminating between them. He had himself tested the truth of this with Nubians and Laplanders, and was inclined to think that colors must be learned. Magnus declares that the power of distinguishing color has increased among civilized peoples since Homer's day, as the great poet's use of color-adjectives will prove. However that may be, it would be an interesting experiment to undertake to show, from their use of descriptive terms of all sorts, the possession by our modern poets of exceptionally keen sense-perceptions.

The Ophthalmological Society of England has conducted examinations for color-blindness in 18,088 cases, finding it present in 4.7 per cent. of the men and in only .4 of one per cent. of the women. Cohn, Magnus, and Pflüger in Germany tested school children, finding an appreciable percentage of them color-blind. Favre, who examined the children in the Lyons schools, believed that congenital color-blindness might be cured by the exercise of the chromatic sense, but his tests were by the unreliable "Méthode d'appellation" employed by Preyer, instead of the "Méthode de reconnaissance," which is the only manner in which the absence of color-discrimination may infallibly be detected.

It does not appear to have occurred to any of these authorities that the color-sense is one thing, and the color-perception quite another, tho Dr. Thompson, who conducted the examinations for the railways of the State of Pennsylvania, uses the significant expression "color-ignorance," and Dr. Jeffries says "Dullness of comprehension and dullness of perception will almost invariably simulate color-blindness." If he had said that dullness of perception *was* color-blindness, psychologically, he would have clearly set forth the truth concerning this mysterious and much-discussed problem, it may be.

Most writers, following Helmholtz, have assumed a triple mechanism in the eye which receives, registers, and transmits to the brain the three primary sensations upon which our color-perceptions are based. The three fundamental impressions are assumed to be those of violet, green, and red, and when these are present, the color-sense is considered normal and the individual is said to possess "trichroic vision." When one of the basic components of the color-sense is lacking, the vision is called "dichroic." That constitutes the defect known as color-blindness. This triple mechanism in the eye and its nerve-connections has never been shown to actually exist, and appears to be still a hypothesis awaiting proof. As Ladd points out, it does not explain color-blindness. Hering asserts that six and not three fundamental colors must be postulated, and Wundt insists upon a difference in the processes and not in the retina itself.

But all ignore the purely psychic factor of recognition, which is not a function of the sensory apparatus, but of the brain itself. Dr. Edridge-Green, in his recent work entitled *Color-blindness and color perception,* admits this, but fails to follow it out to its logical conclusion. He says the eye may be normal in every respect, the communication perfect between the sense-organ and what he terms "the perceptive center" in the brain, the entire sensory mechanism complete in each minutest detail, and yet if the "perceptive center" does not properly perform its task, the mind takes no cognizance of impressions duly received and transmitted to it by the peripheral system. He argues that color-perception is, in its essence, "a perception of difference," in other words a recognition of the fact that one color is not another color.

But the perceiving of differences is the work of the higher nervous centers, and is, in its perfection, the result of the careful training of these centers.

Herschel, also, ascribed color-blindness to a cerebral inability to discriminate between colors, but, so far as known, made no attempt to account for this inability. Dr. Goubert, in the treatise already quoted from, says that color-blindness does not belong to the realm of pathology, since there are no lesions causing it. But it does not seem to have occurred to any of these writers that it belongs to the realm of psychology. What are perceptions but the *Besinnungs-Stoff* with which all our mental science deals, the fundamental psychic facts? To cite two pertinent passages from Ladd's *Physiological psychology:*

" A true theory of the nature and growth of that knowledge of things which comes thru the senses must always be distinctively psychological. For all the factors built, as it were, into the products which we call ' perceptions ' are mental; as we have already seen, these factors are sensations and sensation-complexes." And again: " Perception is then, and we can scarcely repeat or emphasize the declaration too much, a mental achievenment."

If then the eye is admittedly normal in cases of color-blindness, and there are no discoverable brain-lesions, the defect is, in all probability, a mental one, a mere lack of the power of discrimination, due to deficient training. It surely would not be reasonable to say with Goubert that we must assign it to " Une cause prédisposante bien établie, le sexe masculin," when all men are not color-blind.

But if color-blindness should prove to be due to a mere absence of training in early youth while the senses are most keenly impressionable, is it not possible to prevent this weakness by giving a systematic culture to the color-sense in childhood? And if it can be shown that boys, so trained while very young, discriminate and appreciate color as intelligently as girls, what becomes of the assertion that color-blindness is virtually a masculine monopoly and is transmitted by inheritance? Is not the inheritance of a defect inexplicable for which no reason, anatomical, pathological, or physiological has ever been discovered?

One hundred men in every two thousand (striking an average between Wilson's figures and Holmgren's) are color-blind, markedly so. The imperfection is rarely discovered by the individual himself, and undoubtedly many with defective color-perceptions live out their lives without becoming aware of all the beauty and glory hidden from them. In most of the cases reported, circumstances alone have led to the discovery of this absence of normal color-recognition, and the governmental tests now instituted in many services have occasioned disagreeable surprises to many unfortunate candidates for licenses as pilots, locomotive engineers, signalmen, officers in the navy and in the merchant marine. Surely, if training in childhood could have prevented such barring out from careers of usefulness, this training should have been given.

In May, 1877, the English Board of Trade established a system of compulsory examinations to test the color-sense of applicants for mates' and masters' certificates in the merchant marine. The results have been both painful and surprising. The tests are not unduly severe,—in fact, Edridge-Green criticises them for being insufficiently so,—and yet in the twelve years between 1877 and 1890 whose records I have, 5.3 per cent. were rejected for imperfect color-perception. And this in a class of men who, as lookouts and junior officers on forecastle-head and bridge, had for years borne the responsibility of guarding lives whose safety depended upon the correct recognition of colored signals!

A few years ago Dr. Thompson conducted the tests for color-blindness for the Pennsylvania railway systems. He found 4.2 per cent. of color-blindness among the employees on his first investigation. Since then careful examinations into the accuracy of the color-perception of the men have been made by the great American railways, but in one State only are such examinations compulsory by law. The tests are conducted by the companies for their own protection, and are, to judge by the one given by the New York Central Railroad, extremely thoro. No color-blind person could possibly escape detection by that method. It is, with modifications which increase its difficulty, the one devised by Professor Holmgren of Upsala University, and is now in use both on this continent and in Europe.

In these days of enormous transportation systems, to which hundreds of thousands of lives are intrusted daily, and which are operated so very largely in obedience to signals that assume the possession of normally accurate color-perceptions on the part of the operatives, this subject becomes one of vital importance. Dr. Edridge-Green, himself a member of the International Code-of-Signals Committee, asserts that all governmental tests are still insufficient, that the great transportation systems are too lax even now, and that, notwithstanding the modern awakening of interest in the subject, much yet remains to be done before the general public is adequately aware of the imperative need of securing a keen color-sense in those to whom the care of lives is intrusted under conditions rendering necessary such a color-sense. If the prevention of color-blindness in childhood be possible, that would undoubtedly be preferable to even its certain detection in later years with all the hardships which this detection entails.

In case color-blindness is not the result of retinal imperfections, of brain lesions, of some mysterious freak of inheritance which still leaves its *origin* unexplained, if it is not simply a failure to perceive color-differences due to lack of training, why should women be so singularly free from it? Are their perceptions, as a rule, more keen and accurate than those of men? Why should the defect appear in men of all ages, of all classes of society, of all the civilized nationalities; why should masculine eyes of all colors, of all the varying degrees of accuracy and range of vision, as Dr. Goubert points out, display this weakness? Is there nothing in the different training received in the past by the two sexes that would account for this vast difference in the correctness of their color-perceptions?

The instant this question is asked, the reasonableness of an affirmative reply becomes evident. From the days when, as little girls, they chose and assorted colors in their dolls' wardrobes, in their games, their wool-work and embroidery, their patching of silk and cotton scraps, up to the time when, as matrons, they order the affairs of a family, selecting and combining the tints of draperies, carpets, curtains, of fabrics for personal and household adornment, the color-sense of women is trained and exercised. It does not "rust unburnished" as does that of their brothers. And that disuse is the true explanation and cause of color-blindness in men of otherwise normal vision is indicated, if not fully proved, by the fact that little boys show no traces of this weakness when they are taught as their sisters are.

The thousands of boys in our city's primary schools receive now precisely the same kind of color-training that the girls receive, with precisely the same results. This is the testimony of my own experience as a teacher, and it agrees with that of my associates in this work. Boys are not color-blind; that is, there is no inherent, no congenital defect which makes it impossible to train them in the most delicate discrimination of color. Much is expected of them in color-study, much that no experienced teacher has any difficulty whatsoever in obtaining from large classes of boys. I quote the course of study:

> First school year, first term: Study of the spectrum; recognition and naming of the six standard colors; use of colors in arrangements.
>
> Second term: Spectrum colors, and black, white, and gray; color tests and harmony.
>
> Second year, first term: Color tests and harmony; tints and shades in design.
>
> Second term: Color tests and harmony; tints and shades in design in linear and radial patterns.
>
> Third year, first term: Color tests and harmony; tints, shades, and hues of three standards, in designs.
>
> Third year, second term: Color tests and harmony; tints, shades, and hues of six standards, in designs.
>
> Fourth year, first term: Color harmony; colors, and hues, tints, and shades in designs.
>
> Second term: Color harmony; colors, hues, tints, and shades in designs; the grays.
>
> Fifth year, first term: Color harmony; the grays, tints and shades; designs illustrating strict conventionalization.
>
> Fifth year, second term: Color harmony; colors, hues, tints, and shades in designs.
>
> Sixth year, first term: Color, continued as in previous grades.
>
> Second term: Advanced studies in harmony and design.

Dominant, analogous, and complementary harmonies are used, the intermediate colors are mixed, pleasing backgrounds are washed in, colors are toned down, heightened, "grayed," etc., in a way entirely incompatible with the assumption that there can be any congenital deficiency in the color-sense of a large proportion of the boys. The testimony on this point is unanimous—there is no sex-difference in ability to discriminate, combine, and employ colors, when instruction in this branch is begun young and conducted systematically.

I have myself recently examined 580 boys in one of our primary schools where the color-sense is carefully trained along the lines made mandatory by the course of study. Their ages ranged from six to twelve years. Among them all I found no case of color-blindness, tho there would have been 24 such instances had the proportion of color-blindness given by Dr. Jeffries held good. On the contrary, the vast majority of the little lads displayed a delightfully acute appreciation of color-values, discriminating most correctly between the delicate tints and shades, and apparently enjoying thoroly their lessons in color. Their delight in the brilliant hues would have convinced me, had I needed to be convinced, that it is not only unwise, but unkind, to starve a child's color-sense. One child, nine years old, was found to manifest what appeared at first to be a typical case of color-blindness, for in matching the wools, he placed the greens and the reds together. As Edridge-Green points out, the degree of luminosity seems to constitute a standard for those whose color-perceptions are dull; this child placed the dark-reds with the dark-greens, and the light-reds with the light-greens. He is a slow child, slow in his movements, slow in his mental processes, requiring patient and kindly teaching, but he masters all his tasks when time enough is given to him. He has now had a few weeks of special instruction in color, with the most gratifying results. He no longer confuses the red with the green, nor the blue with the violet, as he did at first; he is no longer misled by the luminosity of the tones, and it does not seem unreasonable to claim that he is, in his one small person, a proof of my contention that color-blindness is the result of insufficient color-training in childhood, and that it is preventable if the instruction and guidance of the color-sense begin in early youth.

In making these tests the Holmgren system, employing wools of varying tones, was used, supplemented with colored papers, splints, and the use of an eighteen-scale spectrum.

It may be possible, of course, that there exists a certain congenital keenness of color-perception in favored individuals which enables them to dispense with training, but, in view of the evenness of the results of my investigations, I am inclined to believe that color-discrimination is wholly a matter of practice. To be sure, this practice is not necessarily to be had only in the classroom. But I believe if the impressionable days of early childhood, the period that Halleck aptly terms "the brief morning of plasticity," be passed without this training, the starved color-sense will remain thruout life dulled and deficient. Donaldson tells us cheerfully that "our latent capacities as individuals are far beyond our regular achievements," but in spite of this assurance the question will arise, "Does there not come a time when the "may be" passes into the "might have been" for us?

This matter of acquired color-blindness, therefore, assumes an increased importance in view of the fact that it confronts us with the possibility that there may be other perceptive weaknesses, developed in later life, and dependent upon and caused by the absence of proper sensory training in the impressionable days of childhood. The entire mental structure is admittedly conditioned by the keenness of sensory impressions and the accuracy of the perceptions based upon them. To quote three authorities upon this very point: "Every cerebral element is subject to the educating influences of those sensory nerve-fibers with which it is anatomically connected." —Hering. "Everywhere where there is development, later events are conditioned by earlier."—Höffding. "The highest intellectual development can be no firmer than the sensory foundation."—Halleck.

Does this delicacy of color-discrimination, developed in little children by careful instruction, and far surpassing the color-perceptions of adults who have lacked this training, hint to us that there may be for all the senses a brief blossoming period in extreme youth? Do the latent capacities of which Donaldson speaks remain latent—and possible—thruout life, or does the opportunity of perfect sensory development for the individual vanish forever with the passing of childhood? It may well be that the vital importance of scientific systematic sensory training for children as the only true basis of later intellectual education is yet to be fully appreciated.

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IX

REVIEWS

History of the Central High School of Philadelphia—By FRANKLIN SPENCER EDMONDS, assistant professor of political science, Central High School, and master of archives of the Associated Alumni, Philadelphia: J. B. Lippincott Company, 1902. 394 p. $2.00 net.

The narrative of the Central High School, as related by Mr. Edmonds, is an instructive history of the growth and development of a great public school. The school was first opened in 1838, and its original organization under the able leadership of the broad-minded great-grandson of Benjamin Franklin—Alexander Dallas Bache—is an important chapter in American educational history. Fresh from Europe and saturated with a knowledge of German schools, Bache planned an American high school which should at once be a combination of the German gymnasium and the German real-school. Had the school been allowed to continue to develop along the broad lines laid down for it by Bache, its history would have been very different to tell. Under the administration of John S. Hart, the standard set by Bache was at first continued and raised, so that, in 1849, the State legislature bestowed upon the city controllers of education the authority to confer academic degrees in arts upon the graduates of the school, and invested them with "the same and like power to confer degrees, honorary and otherwise, which is now possessed by the University of Pennsylvania." But the school later fell on evil days. It grew or was driven away from its original ideals. The study of the languages was curtailed, Greek and French were dropped from the course, and for twenty years the students were offered a single strait-jacket practical course, that began nowhere and ended in the same place. In the last fifteen years, under the broad-minded and scholarly stimulus of Mr. Samuel B. Huey, chairman of the high-school committee, the school has been restored to something of its pristine promise.

This school from its inception has been an institution celebrated in its teaching force, unique in its equipment, and for a school of its character pre-eminently distinguished in its graduates. It is a matter of no small moment that a public school should have had identified with its teaching force men of the stamp of John S. Hart, Edwin J. Houston, E. Otis Kendall, Rembrandt Peale, John Sanderson, Franklin Taylor, Robert Ellis Thompson, Elihu Thompson, Albert H. Smyth, and Enoch C. Wines, to mention but a few. Moreover, the astronomical observatory, which from the beginning to the present day has been maintained as a distinctive feature in the organization and equipment of the school, is unique in public education, perhaps the world over. "The erection of this observatory," once said Professor Elias Loomis of the original equipment, "formed an epoch in the history of American astronomy." Out of this observatory, it is not too much to say, grew the Lick Observatory, and the Yerkes Observatory of the University of Chicago; in the one case, thru the impulse of a high-school graduate, Professor George Davidson, and in the other, thru the generosity of a high-school graduate, Mr. Charles T. Yerkes, both of whom received their first interest in astronomy in the observatory of the Central High School. The real work of the Central High School, however, has been best shown in the character and work of its graduates. In this school have been educated such men as Hon. Charles F. Manderson, Senator from Nebraska; Hon. Robert E. Pattison, twice governor of Pennsylvania; Ignatius Donnelly, Henry George, Frank R. Stockton, the novelist; George Alfred Townsend, the distinguished journalist; James B. Sword and William T. Richards, the noted artists; Elihu Thompson and Edwin J. Houston, of electric-light fame; President Thomas M. Drown of Lehigh University; George Davidson of the United States Coast Survey; Rev. Chester D. Hartranft, president of the Theological Seminary of Hartford; John G. Johnson, the lawyer; Dr. W. W. Keen, president of the American Medical Association; J. P. Green and Edmund Smith, vice presidents of the Pennsylvania Railroad Company; John R. Fanshawe, secretary of the Lehigh Valley Railroad Company; Joseph S. Harris, president of the Philadelphia and Reading Railroad Company; Joseph W. Drexel, the banker; Clement A. Griscom, of the International Navigation Company, and nine of the Cramps, of ship-building fame. The chapter on the alumni of the school is an impressive record of the immense service which this school has rendered to the nation generally, and particularly to the city of Philadelphia, many of whose most prominent citizens in political, professional, industrial, financial, scientific, and literary life, have been educated almost wholly in this school.

All these facts Mr. Edmonds sets forth with much detail in a volume which is undoubtedly a useful contribution to educational history in Pennsylvania. It is a book which will be read with pleasure and pride by the graduates of the school, and with profit by all students of public educational development. It must be added, however, that the book has in it disappointment for both these classes of readers. Not a few of the former who read Mr. Edmonds's work critically will not be disposed to praise all the things which Mr. Edmonds praises, nor will they share in Mr. Edmonds's regret that the school in its modernization has lost so much of what was good and sound in the past, simply because they know, as matter of fact, that even " under the direction of executives who knew little of the noble traditions of the past," the school has been rescued from its period of deadening descent, and started on a course which promises, not only to realize the best traditions and tendencies of the school in the past, but to carry them forward enlarged and enriched. Mr. Edmonds should have stuck religiously to his determination to end his history with the *régime* of President Riché. What he says of the school as it exists to-day is wholly inadequate, and so misleading. The general educational student, on the other hand, will be disappointed that Mr. Edmonds' book is so distinctly reminiscential. Mr. Edmonds has written a pleasant book, but the real history of the Central High School, and its part in the struggle for higher education at public expense, remains to be written.

There should be added a word of praise for the publishers. The letterpress, illustrations, and general make-up of the book are exceptionally good, and add considerably to the dignity of the volume.

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X

NOTES AND NEWS

The English Education Bill

Despite the fact that the English newspapers keep harping upon the fact that "education is proverbially a dull subject," their columns are filled with editorials and letters which discuss the pending Education Bill from every conceivable point of view. It is a most encouraging sign that nothing has so stirred the masses of the English people since the Reform Bill agitation, Home Rule excepted, as this controversy over the provisions of Mr. Balfour's Education Bill. The Home Rule controversy, while both bitter and prolonged, may yet be surpassed by the Education Bill controversy. Under such circumstances as these, students of education in America should spare no pains to understand the provisions of the Bill, complicated tho they be, as well as the political, social, and educational tendencies which they express. A correspondent of the London *Times* furnished that newspaper on September 4 last with an analysis and criticism of the bill which we are glad to be able to reproduce in full:

> Now that the dust of sectarian and political controversy has subsided for a time, it is possible to see more clearly the educational issues involved, and to examine the Government bill as an educational measure. What will be the actual or possible effect, educationally speaking, of the clauses already passed thru committee, assuming that they eventually become law?
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> I Administration—Before dealing with the bill itself we may notice the administrative changes of which it forms a part; changes far-reaching and important, which indicate a gradual awakening of the national conscience to the importance of education as a branch of public administration. Thirty-four years have passed since the Royal Commission on Secondary Education, presided over by Lord Taunton, of which the Archbishop of Canterbury is now the sole survivor, suggested as essential to efficient administration a central authority under a minister of education, with local provincial boards. This recommendation, repeated and elaborated by Mr. Bryce's commission in 1895, is at last in the way of being realized. The constitution of local authorities for education is the most vital feature of the bill now before Parliament; and quite recently, among

the Ministerial changes consequent upon Lord Salisbury's retirement and Mr. Balfour's accession to the Premiership, educationists have hailed with satisfaction the appointment of Lord Londonderry as Minister at the head of the board of education, with Sir William Anson, M. P., as parliamentary under-secretary. The board of education has now for the first time an independent existence as a department of state. Its president is, and it may be hoped always will be, in the cabinet; while its first parliamentary under-secretary is a man of proved capacity, educational experience, and conciliatory manner—not an unimportant qualification in the present temper of the House of Commons and the English people toward educational questions. The omens are favorable for a real advance. A strong and efficient central authority, with local authorities surveying the whole field of education over given areas, and a consultative council of experts—such has been for years the administrative ideal of those who have cared seriously for education. It is to the credit of the present Government that, after a good deal of hesitation, and more than one failure, they are placing this ideal within our reach. The consultative council is at work; the central authority is assuming definite shape; the local authorities will come into being if the present bill becomes law.

By clauses 1 and 6 of the bill, already assented to in committee, the council of every county and county borough, of boroughs with a population over 10,000, and of urban districts over 20,000, is to be the local education authority for its area, and the rating authority for educational purposes. Clause 12 provides that it shall act, except for raising a rate or borrowing money, thru an education committee, a majority of which must be appointed by the council, but not necessarily, as the clause now stands, members of it. The scheme constituting the committee (to be approved by the board of education) must also provide

> For the appointment by the council, on the nomination, where it appears desirable, of other bodies, of persons of experience in education, and of persons acquainted with the needs of the various kinds of schools in the area for which the council acts.

This clumsily drawn proviso invites amendment from the educational point of view. It should be made clearer that these committees must in any case contain a proportion of educational experts; and it might be better to name a *minimum* proportion—not less than one-fourth, or one-fifth, of the whole number. As to the nomination by other bodies "where it appears desirable" (does this mean to the local or to the central authority?), surely it were better to say one thing or other, and either enjoin such nomination or leave it alone. Mr. Bryce's commission suggested that the majority of a county education committee should be appointed by the county council, and that of the remainder one-third (about one-sixth of the whole) should be nominated by the education Minister, aided by the advice of the "educational council" (*i. e.*, the "consultative committee," as it is now called), the rest being co-opted by the members already chosen, with the proviso that "several ought to be taken from persons actually or recently engaged in teaching." The presence of actual teachers on such a body is of doubtful value or importance. "Persons of experience in education" or "acquainted with the needs of the various schools" is probably a better and more workable condition. But some more definite instruction, on the lines of that given by Mr. Bryce's commission, would help rather than hinder the county and borough councils in the formation of their education committees. It is of vital importance that the right men should be chosen at the outset. In any case, Mr. Balfour might well consider the nomination of a certain number (say about one-sixth) of every such committee by the central authority.

Amendments are sure to be moved with the view of insuring that the majority of the education committees shall be not only appointed by, but actually members of, the local authority, and therefore popularly elected. It is possible that, in view of the outcry about popular representation in the spending of public money, Mr. Balfour may give way on this point. But, inasmuch as the supreme financial control will rest with the council itself, a popularly elected body, he may feel justified in adhering to his contention that this is a sufficient guarantee of popular control. In the natural course of things a council will appoint a majority of its own members, and can, if it pleases, introduce others (if there remain any such) as "persons of experience in education." But, if there is a difficulty in finding enough members of the council who are interested in education, the greater freedom given by the clause as it stands may be, educationally, an advantage, and will not really infringe the principle of popular control. That principle is being ridden hard by opponents of the bill, but not on educational grounds.

II Secondary Education—In the heat and turmoil of religious strife over the voluntary schools it has been almost forgotten that the original *raison d'être* of an education bill was the unsatisfactory condition of secondary education, and that in this particular bill as first drafted the duty actually imposed upon the new local authorities was the care of secondary education, it being left optional to them to undertake the charge of elementary education. It is still the view of some competent educationists—Mr. Arthur Acland, for instance—that this was the right line to take, and that the organization of secondary education is, from an educational point of view, the most urgent question. But the British public does not take readily to the educational point of view. It is much more interested in the religious and political disputes which have arisen over elementary education thru the rivalry between board and voluntary schools. And, as the condition of the voluntary schools was confessedly a matter of urgency, there arose such an outcry against giving any option to local authorities whether or no they would deal with elementary education that this option has disappeared from the bill. One effect has been to shunt the whole train of public interest and discussion from the secondary to the elementary line, and so far to justify the view of those who testified against the attempt to include secondary and elementary education in a single bill.

What, however, does the bill do for secondary education? It creates possibilities, it establishes machinery for future action, it suggests—rather dimly, it must be admitted—lines of activity to the authorities which it has created. Whether it effects much improvement or not will depend largely upon the courage, the public spirit, and the intelligence of those in whose hands it places the control of education. If the new local authorities have the wit to see, and the enterprise to meet, some of the most urgent needs of secondary education for the sons and daughters of the middle and lower middle classes, there is a wide field of usefulness open to them. Mr. Bryce's commission, after setting forth most convincingly the deficiencies and general want of system in the existing provision for secondary education and the urgent need for local authorities to deal with it, arranged the functions of such authorities under four heads:

1. The securing a due provision of secondary instruction.
2. The remodeling, where necessary, and supervision of the working of endowed (other than non-local) schools and other educational endowments.
3. A watchful survey of the field of secondary education, with the object of bringing proprietary and private schools into the general educational system, and of endeavoring to encourage and facilitate, so far as this can be done by stimulus, by persuasion, and by the offer of privileges and advice, any improvements they may be inclined to introduce.
4. The administration of such sums, either arising from rates levied within the local authority's area, or paid over from the national exchequer, as may be at its disposal for the promotion of education.

The commissioners, while trusting that the measures recommended by them might stimulate private enterprise to supply some of the deficiencies noted, expressed a decided opinion "that private enterprise cannot be entirely relied on, and that the duty of seeing that an adequate supply of secondary instruction is provided must be thrown on a public authority." This duty, they consider, should be imposed by statute on each local educational authority.

This has now been done under clause 2 of the bill. As originally drafted, this clause only provided that the local education authority may supply or aid the supply of education other than elementary—a futile provision, characteristic of the national and Parliamentary unwillingness to grasp the nettle firmly. As amended in committee the clause now provides that "the local education authority shall consider the needs and take such steps as seem to them desirable, after consultation with the board of education, to supply or aid the supply of education other than elementary (including the training of teachers and the general co-ordination of all forms of education)." This is a great step gained, and may be the starting-point of far-reaching reforms in our educational system. Educationally, it is of vastly greater importance than the "management clause" (7) so hotly disputed. Whichever way it is ultimately settled, that clause will have but slight educational effect. But clause 2 opens the door to that organization of secondary education of which Matthew Arnold prophesied in the wilderness half a century ago, and which has ever since been a chief article in the creed of genuine educational reformers. It lays for the first time upon a definitely constituted public authority a definite duty in regard to secondary education, the provision of which has hitherto been left to private enterprise, with no supervision, no system, and no aim other than commercial. It translates into fact the recommendations of the Royal Commission above referred to; and if at present the central authority—*i. e.*, the board of education—is not sufficiently empowered to see that the local authority fulfills its duty, there should be no difficulty in making this power statutably clear.

Two expressions in clause 2 as amended deserve notice as specially welcome from an educational point of view—viz., the "training of teachers" and "the co-ordination of all forms of education." That teachers should be trained for their profession is an axiom in all countries where education is taken seriously. In this country, where elementary education alone is seriously organized, elementary teachers alone have as yet received this necessary equipment for their work, and even for them the appliances for training, however good in quality, are sadly lacking in quantity. For teachers in secondary schools the need of some training has only in the last few years been recognized at all, and is just beginning to be provided tentatively, by voluntary co-operation of the Universities with some of the more enlightened headmasters of public schools. More training facilities for elementary-school teachers and the creation of a system of training for teachers in secondary schools are among our chief educational needs, and are recognized as such in this bill. In the reports upon the various educational systems of the United States recently issued by the board of education we see that the special training of teachers is always provided for, "normal" or training schools being included in the arrangements of each State or city. The Americans are a practical people, with a strong belief in their schools as a training ground for good citizenship. They feel that much depends on the teacher, and they are resolved that he (or she, a majority of their teachers being women) shall be as well qualified as possible for this great service to the State.

Into the financial provisions of the bill with respect to secondary education it is not necessary to enter here. They are details capable of modification as need arises and as the work grows under the hand of the new authorities. Those who fear, as some do, that a twopenny rate will be utterly inadequate may take heart from the working of the Welsh Intermediate Education Act. The county education committees under that Act have found that, in addition to the "whisky money" and educational endowments, a county rate of a halfpenny in the pound, with an Exchequer grant of equivalent amount, has enabled them to do much for the provision of secondary education. With regard to the "religious difficulty," happily much less acute in secondary than in elementary education, the application of the "Cowper-Temple Clause" to schools provided by the local authority seems reasonable in itself, and may help to keep the difficulty at arm's length—a result much to be desired on educational grounds. We do not want religion banished from secondary any more than from elementary schools; but we do want to keep out the "religious difficulty."

III Elementary education—With the actual details of the education given in our elementary schools the bill is but slightly concerned. It is, as regards them, an administrative rather than an educational measure. The great battle in Parliament is over questions of management and control; and clause 7, in whatever form it finally emerges, will have no perceptible effect upon the education given in the schools, except so far as good management and efficient control may affect its quality. If Mr. Balfour could have seen his way to a larger element of popular representation on the boards of management, the bill might have been a step in the direction of stimulating greater popular interest in the schools. The want of such interest in England, as compared, for example, with Scotland, Switzerland, or the United States, is half the explanation of our educational inferiority; and from this point of view the introduction of more representatives of the parishioners upon the local management of schools ought to be welcomed even by the clergy, whose "one-man" management has in many cases been not sought by, but forced upon, them thru the apathy of their neighbors. If it increases popular interest, it will indirectly make, as time goes on, for educational efficiency. But, so far as any direct educational effect is concerned, the constitution of the local committees of management is of very slight importance. The controversy that rages round clause 7 is religious and political, but hardly educational.

Yet the bill, if it becomes law, should have very important educational results. Chief among these is the placing of all schools under the same financial conditions, thus getting rid of that worst anomaly of the "dual system," the "intolerable strain" of the unequal competition of voluntary schools with limited means against board schools drawing at their own discretion from a bottomless purse. The result of this anomaly was that the voluntary schools, educating half the children of the country, were inferior in staff, in buildings, and in equipment; an inferiority which could not but affect the education given in them. Only national indifference combined with religious intolerance could have endured this state of things even for a generation. As to religious intolerance, there were faults on both sides; and it was perhaps as much due to Churchmen as to Nonconformists that no *modus vivendi* had been found possible. There was much allowance to be made for the clergy. They had borne the burden of public education before statesmen would touch it with one of their fingers, and they were contending for a great educational principle, that this education should rest upon a definitely religious basis. They still contend for this in the schools belonging to them, tho willing, in return for increased public aid with a view to educational efficiency, to accept a measure of public control. Their attitude is not unreasonable. But what is to be said of those so-called advocates of progress, those stanch upholders of Liberalism in all its forms, who, because the great majority of denominational schools are connected with the Church, whose ascendency they detest, put educational considerations aside and set themselves to discredit and, if possible wreck a bill which, in the words of a recent correspondent to the *Times*, "ought to mark the beginning of a new era of educational progress"? To an impartial observer, anxious above everything for educational efficiency, it is no longer the clergy of the Church of England or the Conservative party, but the chosen leaders of Nonconformity and the exponents of Liberalism, who desire to set back the clock. Is it too much to ask them to forego the fascination of a party cry in the cause of educational efficiency? Is it too much to ask that, in the interest of the children (too little regarded by wrangling politicians) and for the well-being of the nation, all true statesmen and all who really desire the improvement of national education will unite to secure the passing of a bill, which, if not perfect in all its parts, is, educationally, a real step forward? In its provisions as regards secondary education it is the first attempt, good as far as it goes, to carry out the carefully considered and most valuable recommendations of the two Royal Commissions that reported in 1868 and 1895. In its provisions for uniformity of administration of elementary schools by local authorities taking cognizance of educational requirements over sufficiently wide areas, in the closure which it applies to the financial inequalities of the existing dual system, and in its assertion of the principle that public education should not depend upon private charity, it marks for elementary education the greatest step in advance since the Act of 1870, and may well be the beginning of a new era in educational efficiency.

Lake Placid Conference on Home Economics

The Lake Placid Conference on Home Economics held its fourth annual session September 15-20. This conference is devoted to the scientific and sociologic study of the home, the aim being to concentrate the best thought of leading workers along special lines in order that the discussions may count as distinct progress in some limited part of the field. Different specialists are invited each year as the subjects discussed vary, but a nucleus of the same workers controls the permanent policy and development of the Conference.

The special subject for consideration this year was the family in its relation to society. Dr. Thomas D. Wood of Columbia University gave an address upon "Some controlling ideals in the family life of the future." He showed the application to family life of the principle of "projected efficiency." When human beings and families rationally and intelligently subordinate their own interests to the welfare of the future, the world will have a more effective and enduring type of family life than exists at present. This can only be accomplished by the development of controlling ideals which are supported, not only by reason and intelligence, but by ethical impulse and religious motive.

Dr. Charles R. Henderson of the University of Chicago, altho unable to be present, sent a paper on "Social conditions affecting the law of family life." The paper recommended tenement-house legislation for the purpose of saving and purifying the monogamic family by preserving for its environment the sacred privacy of a home; child-labor legislation, and the establishment of juvenile courts for the protection of the child;—more stringent laws for the purpose of enforcing marital responsibility, and the inauguration of a system of government insurance for workingmen in case of accident, sickness, invalidism, and old age, for the purpose of reducing those temptations to neglect of marital duty which arise from want.

Miss Caroline L. Hunt read a paper on "Public and private industry," in which she pointed out the great significance to family life of the revival of the handicrafts, and the movement toward centralization in the work of food preparation. The former brings to woman work for hand and brain that can be carried on without interfering with home-making, while the latter gives her leisure in which to become a specialist in her work and to learn its relation to the general social economy.

The members of the Conference adopted resolutions in which they expressed the belief that the time had come when the subjects related to the home should receive larger recognition in the curricula of colleges and universities. In view of the increasing demand for such instruction, and in view of the fact that such instruction is of equal educational value with that in other subjects now included in college courses, they urge that the heads of the higher institutions of learning meet the demand either by introducing new departments or by extending already existing departments, such as those of chemistry, sociology, and economics, in such a way as to make them of more direct benefit in the study of home problems.

Mayor Low on the New York Schools

For several months past Mayor Low of New York has made public a series of instructive and interesting "talks" on various departments and phases of the city government. These "talks" have been widely read, when published in the daily newspapers, and that on the public schools, lately issued, is reproduced here in full both for record and that it may reach the readers of the REVIEW in other parts of the country.

Most problems that are simple upon a small scale become difficult if the scale is magnified. In Maine, where I have been in the habit of spending the summer, there is an island containing a population, young and old, of forty persons. Upon this island there is a small schoolhouse. As the population is practically stationary, the school problem was solved on its physical side for a long term of years by the erection of this building; on its educational side the appointment of a school-teacher, year by year, is all that needs to be done. When it comes to providing school buildings for five hundred thousand children, however, and an educational system that will produce satisfactory results on so large a scale, the problem becomes immensely difficult—yet nothing has happened, except that the multiplication table has come into play.

The most striking feature in the school situation, at the moment, is the fact that there are 67,590 children in part-time classes this year; against 58,123 last year. This was at the opening of the school year. There were, however, at the end of September last year, 5068 children, in addition, entirely out of school. This year there are no children out of school who are six years of age and over. It is clear, however, that the increase of sittings has not equaled the growth in the demand. The following figures throw light upon this situation. Just prior to consolidation large appropriations were made in old New York for school buildings, with the result that 15,000 seats were added to the supply in 1898. In Brooklyn, however, this seems not to have been done; with the result that only 400 seats were added to Brooklyn schools in that year.

The bond issues authorized for school purposes by the last Administration were as follows:

1898	None
1899	$7,683,640
1900	3,500,000
1901	3,850,000
Total	$15,033,640

The actual expenditures made in these years were as follows:

1898	$2,275,583.04
1899	6,360,718.35
1900	5,248,310.34
1901	4,477,740.57
Total	$18,362,352.30

The excess is due to money on hand from earlier bond issues. For 1902 the present Board of Estimate and Apportionment has authorized the issue of bonds for school buildings to the extent of $6,000,000.

The seats added in each year, since consolidation, have been as follows:

	Manhattan and Bronx.	Brooklyn.
1898	15,000	400
1899	13,800	7,224
1900	8,700	12,664
1901	17,890	11,054
1902	7,770	6,575
Total	63,160	37,917

Two inferences are to be drawn from these figures. First, that it takes two years, ordinarily, for bond issues for school buildings to produce their full effect upon the sittings. Thus, the large issue of bonds in 1899 added 29,000 sittings in 1901, while the small issue of bonds in 1900 added only 14,000 sittings in 1902. The second inference is that, since 1898, the school moneys have been fairly divided, as between these two boroughs, on the basis of population; if anything, the division has favored Brooklyn.

The greatest number of part-time classes in Manhattan and the Bronx are on the East Side, in the section of the city bounded by the East River, Catherine Street, the Bowery and Third Avenue, and East Twelfth Street. On examining the statistics of the last five years, the explanation is self-evident. By Mayor Strong's Administration, provision was made for this quarter of the city which resulted in adding, in 1898, 10,750 sittings to the school accommodations there. Since then, the additions of seats in this quarter have been as follows: 1899, none; 1900, 1080 sittings; 1901, 1600 sittings; 1902, 1000 sittings. In other words, very little provision has been made for this part of the city during the past four years. The present board of education is hoping to add 8000 seats in this section next year, and about 17,000 seats the year after that. As I have said, it takes two years to realize the full effects of large appropriations.

In Brooklyn, on the other hand, the shortage of sittings is much less localized, tho it is most acute in the old Sixteenth Ward. This is partly due to the use, during recent years, of available funds for the erection of school buildings in new sections of the borough, in advance of the need. I cannot escape the conviction, however, that Brooklyn must have been less adequately supplied with schools at the time of the consolidation than the old city of New York; for since 1898 there have been 37,517 sittings added in Brooklyn, against 48,160 in Manhattan and the Bronx. However that may be, the greatest number of children now on half-time is in Brooklyn, and the schools must be placed where the children are. The present board of education is hoping to add, for the whole city, 33,000 sittings in 1903, and 32,000 or more in 1904. Of these 24,000 will be in Brooklyn, and 30,500 in Manhattan and the Bronx.

In this discussion I have not gone into details as to Queens and Richmond, as it seemed to be unnecessary. There is a certain deficiency in parts of Long Island City; but that, also, is being made good.

In administering the funds for new buildings, it is highly important that the board of education give great attention to securing new sites for buildings ahead of the actual need. I do not mean simply in the new parts of the city, where the growth can be foreseen, but also in the crowded parts of the city, where the growth is just as real, altho it is less apparent. When sites can be acquired at private sale, the process is not a long one; but this, unfortunately, is seldom possible. The process of condemning property for a school site, on the other hand, is, at best, slow, and sometimes it takes as long as a year. Altho the board of education was given $6,000,000 for school buildings in the early part of this year, it has found itself utterly helpless promptly to relieve the congestion in Brooklyn, because few sites were at command in the parts of the city where the pressure upon the schools is greatest. The delay involved in acquiring new sites means that this pressure cannot be thoroly relieved in less than two years; whereas it might have been largely relieved in one, if the sites had been at command.

This whole subject, it must be confessed, is one of very great difficulty. When the board of education has done its best, it is not always possible to foresee where the growth of population will be. It is also a perplexing feature of the situation that there may be seats enough in the schools as a whole, and yet a very great deficiency in localities, here and there. This is to some extent the situation at the present time. This is due to the fact that the vacant sittings are in buildings so far removed from the centers of congestion as not to be available for their relief. The fact, however, serves to illustrate the statement that the city must provide more sittings than the whole number of school children, in order to have seats enough in all places.

It seems singular that, in Manhattan, the principal deficiency is to be found south of Houston street. This probably signifies that the process of changing old school buildings, which were well enough adapted to the conditions ten years ago, has not kept pace with the very rapid increase in population in that quarter during the last five years. On the lower west side, on the other hand, schools that were at one time overcrowded have now empty seats.

This whole subject is so large and so complicated that it requires the most careful study by the board of education from other points of view as well. It ought to be said that the new board of education has taken one step of great importance in the right direction. Heretofore, principals have ceased registering pupils when the school buildings were full. This year they have been instructed to register—that is, admit—every pupil over six years of age who applied. As many as possible were admitted to full-time classes, and the rest to part-time classes. It must, therefore, be said that this year, for the first time, the board of education knows how many children are not fully provided for. Indeed, as a result of this policy there are now no children known to be out of school who are six years old or over, tho there are many in part-time classes. It is possible, therefore, that the increase in the number of half-time classes is apparent rather than real; that is to say, there may have been more children out of school last year than was known to be the case. A few years of experience under the present method will give valuable information on this head. This system also takes the place of a school census; and gives information as to where schools are needed that is really more trustworthy than the results of a census.

Twenty years ago, when I was Mayor of Brooklyn, there were precisely the same sort of difficulties to be contended with. At that time I urged the board of estimate to decline to make appropriations for high schools until there was room enough at the bottom. That is a remedy not infrequently suggested now. I refer to it because the result of that policy, which was actually adopted for a time, was highly disappointing. Graduations from the highest grammar grades almost entirely ceased, and the orderly movement of children from grade to grade was everywhere checked. Principals all over the city kept their children in the higher grammar grades without promoting them, so that they might get the additional instruction which they desired. In other words, this policy ran against an instinct of human nature that has to be taken into account. It was found to be practically impossible to induce teachers to deprive bright students of two or three years of advanced study, that they were competent to take and which their circumstances permitted them to enjoy. By reversing this policy, and building a high school, the normal flow of children thru the public schools was resumed and has never since been checked. The high schools, therefore, in meeting this desire, increase, rather than decrease, the capacity of the schools of the lower grades. No remedy for the present troubles, therefore, is likely to come from a failure to enlarge the high-school system as may be necessary.

On the other hand, precisely as children go for long distances to the different high schools of the city, so it would seem to me that children of the higher grades in the grammar schools can properly be asked to go a considerable distance to a grammar school. The younger children must, of course, be taken care of near home. It is worth considering whether the creation of grammar-school districts of convenient size, and the concentration of the grammar-school pupils in those districts in a few buildings, may not be worth while. I submit the suggestion for what it may be worth, without having any distinct opinion as to its value. Similarly, it may be worth while to consider, in a systematic way, the proposal which President Burlingham has frequently urged, that the older grammar-school children be furnished transportation, where that is practicable, to schools at a distance where vacant seats may be available.

It is fair to the present board of education to remember that the system under which the schools were being cared for was radically changed on the 1st of February. At that time an entirely new board of education took control. Progress has already been made, in many directions, that justifies the hope that the conduct of the schools under this new system will constantly grow in efficiency. It has already put an end to useless squabbles among the boroughs; and it has brought about uniformity in educational and financial management that has resulted in increased efficiency, and, at the same time, in many economies. It has enlarged the powers of the city superintendent, so as to make possible a system of pedagogical control, reaching over the whole city, that is harmonious and effective. By devolving responsibility, in turn, upon district superintendents, better oversight is had and better results obtained. The new plan, also, delegated the legislative initiative to a small body of superintendents, which has the opportunity to seek the advice and aid of all members of the teaching force. At the same time it has brought the schools into closer relations with the people thru the enlarged functions of the district school boards. It has made eligible for the higher places in the system all the teachers in the city, resulting in a better *esprit de corps*, and generally in a greater sense of unity.

It is certainly true that this board has not succeeded perfectly in the matter of school repairs. Under proper management, all repairing should be finished by the time the schools open in the autumn. This is not so easy a task, at best; and it is especially difficult by the processes which the city charter prescribes for the doing of public work; but, by patient attention to details, the results achieved ought to improve each year. The present board had, first of all, after its organization, to find out what repairs had to be made; and then it had to learn by experience the stumbling-blocks in the way of prompt action. I have little doubt that another year the results will be much better; but the community must appreciate that at best it is a problem of the utmost difficulty. Some idea of the magnitude of the work is shown by the fact that the building committee of the board has passed upon 498 contracts during the current year. Of these, as many as 164 were for alterations and repairs. The number of sittings added this autumn, and to be added up to the 1st of January, amount to 17,600. Buildings have been placed under contract which ought to supply, during 1903, about 33,000 sittings. During 1904, at least 32,000, or more, sittings can be provided.

The use now being made of school buildings, for other purposes than the regular school work, is interesting. Vacation schools in Manhattan and the Bronx were availed of by 385,496 children; twelve evening play-centers, since January 1, by 560,136; roof playgrounds, in Manhattan and the Bronx, by 305,789. Under the authority of the board of education certain outside playgrounds have been conducted, and the following figures show the use made of them: Forty-one playgrounds in Manhattan and the Bronx were used by 725,058 children; twenty in Brooklyn by 569,134; ten open-air playgrounds and six piers by 418,309. In these figures, of course, the same child is counted every time that he was on the grounds. There are also baths in one school building, that have been largely used. It is clear, therefore, that the school buildings are beginning to play an important part in the life of the children, aside from their educational function.

In the conduct of public schools, as in every other occupation, the whole problem is to secure the right man for the particular piece of work to be done. Whenever a good principal is appointed, you have a good school; when a poor principal is appointed you have a poor school—precisely as a good teacher makes a good class, and a poor teacher a poor class. In a school system as large as that of the city of New York, there is, of course, great inequality in the schools, growing out of the difference in the personal equation. There are some schools in the city as fine as any to be found in the country; there are others that reflect the less fortunate conditions that have attached to them for many years. On the whole, however, it may be confidently said that the school system of New York has greatly improved during the last ten years, and that the tendency to improvement is still strong. A higher standard of equipment for teaching is now demanded than formerly, and with it has come both a strong *esprit de corps*, and a fine ambition. It will always be possible to make improvements; but it may safely be said that the school system, as a whole, is something of which the city may be proud, and that it deserves the affectionate confidence which it so largely commands.

EDUCATIONAL REVIEW

DECEMBER, 1902

I

POST-GRADUATE INSTRUCTION IN THE UNITED STATES ARMY

During its early existence the United States Military Academy, situated in the beautiful highlands of the Hudson, languished for want of proper appreciation; but for considerably more than half a century the West Point motto of Duty—Honor—Country, and the principles enunciated there, have served to make its standard of ethics the accepted code of the whole army and to fix permanently the magnificent type of soldier known as the American regular.

The foundation stones of the regular army standard are a firm and frank adherence to the principle of the superiority of civil law, a thoro knowledge of theory, and the highest grade of proficiency in the practical performance of every military duty. It is not enough that each one shall do the best he can, but that he shall know and do what is right. With these fixed principles and a systematic training of the annual accretions to its ranks, it is only necessary that the regular army shall be governed by well-considered laws and regulations, administered thru a proper military hierarchy, to enable it to keep alive the knowledge, traditions, and customs of war, so essential to the safe-guarding of the vast material interests of the Republic.

Arising from the practices and traditions of the British service it was long the custom in our regular army to give wide latitude to, and depend largely upon, drill sergeants, but with the evolution which caused military science to become gradually more and more exact, the necessity for the higher education of officers became apparent.

It has long been the established practice at West Point to demand that every graduate shall be proficient in every subject; and carrying this practice out into the military service, it is there demanded that every officer shall be able not only to command according to his grade, but to instruct thoroly all those in the lower grades committed to his charge. It was the development of this idea which brought the officers and men of the regular army to such a state of individual perfection as to secure the highest respect of all foreign observers in the brief war with Spain.

Inasmuch as the service and post-graduate schools were not of sufficient capacity to enable all the young officers to obtain the benefits of those institutions, a system of lyceum instruction was established some twelve or fifteen years ago with a view to better fitting the officers generally for their professional duties. After a fair trial it was made evident to all those brought in close contact with the lyceum methods that their success depended too much upon the personality of the various commanding officers and that no uniformity of results could be expected from the continuance of that system. After a careful study of the entire subject the present Secretary of War, Mr. Elihu Root, decided to abandon the lyceum system and to establish a more comprehensive scheme, under which every officer entering the service will be required to establish his progressive fitness for the duties of the various grades and that this fitness shall be a matter of record.

There has long been established in the regular army a system of examinations for promotion which have no connection with the scheme of instruction and training recently inaugurated; but the legal machinery in connection with these examinations is expected to play an important part in ridding the service of any officer whose inefficiency may be developed in the progress of the general plan of education and training which has now been firmly engrafted on the army system and recognized by Congress.

The large influx of young men appointed from civil life, from the ranks, and from volunteers with brief service in the war with Spain, makes it necessary that some methods of instruction shall be systematically carried out, not only to fit them for the grades to which they have been appointed, but to develop the capacity of each with a view to service in the higher grades.

The scheme of fitting officers for their duties recently inaugurated by the Secretary of War may be likened to the university plan of military education. The groundwork of the system begins with the officers' schools at all military posts. The scheme may be best comprehended by quoting from the order which established it:

THE SYSTEM OF INSTRUCTION

> There shall be, besides the Military Academy at West Point, the following schools for the instruction of officers of the Army:
>
> 1. At each military post an officers' school for elementary instruction in theory and practice.
>
> 2. Special service schools:
>
> (*a*) The Artillery School at Fort Monroe, Virginia.
>
> (*b*) The Engineer School of Application, Washington Barracks, District of Columbia.
>
> (*c*) The School of Submarine Defense, Fort Totten, New York.
>
> (*d*) The School of Application for Cavalry and Field Artillery at Fort Riley, Kansas.
>
> (*e*) The Army Medical School, Washington, D. C.

It is intended that all lieutenants shall be thoroly and systematically grounded in all the elementary instruction, both theoretical and practical, involved in their ordinary work with the enlisted men, such as drill regulations, guard duty, target practice, the keeping of the company books, and the duties of the various staff and supply departments. They are also to learn military law, field engineering, military sketching, the duties of troops in campaign, minor tactics, and to acquire a general knowledge of methods, materials, and implements essential to successful military operations. It is recognized that the mere knowledge of theory is of little value to the army officer unless he has the power of practical application. For this reason it is provided that in the various schools officers shall be constantly brought in contact with the men and materials under conditions akin to those of war.

In general the scheme proposes that after all the officers have been trained at the various post schools for the duties of their grade, their relative merits shall be determined by competent boards of officers, and those who exhibit the most aptitude and intelligence will be reported to the War Department with a view to their detail in the General Service and Staff College for further instruction. It is intended that the officers who exhibit the greatest interest and proficiency in the theoretical and practical courses prescribed for the officers' schools at posts and in the General Service and Staff College shall be given, subsequently, the benefits of the War College course and shall have special consideration for employment in whatever duties their particular abilities may seem to justify.

The General Service and Staff College is not an entirely new institution, but is an enlargement and development of the Infantry and Cavalry School established at Fort Leavenworth under the personal direction of General Sherman many years ago. The regular army owes to this distinguished officer a debt of gratitude for the uniform encouragement which he gave to the theoretical and practical study of the military art in this country.

The rapid development of modern science, as applied to the art of war, caused the establishment some years ago of the various special-service schools which now form an important part of the general system, but they were so ill supplied with funds in the past as to fall short of their possible value. This may be fully explained by the statement that the great post-graduate school for cavalry and infantry officers was allowed only fifteen hundred dollars annually for all supplies, instruments, and materials.

The Artillery School established many years ago at Fort Monroe, Virginia, has for its object the special training of officers and gunners for the modern coast defenses; the intricate machinery of the modern high-power guns necessitates a special scientific training for the economical and proper management of this expensive arm of the service.

The Engineer School of Application embraces a post-graduate course for the honor graduates of West Point, who are assigned to the Engineer Corps from year to year. The curriculum embraces not only subjects connected with their duties as military engineers, but those required in the performance of the vast and important civil functions performed so creditably by the Engineer Corps in years past in connection with the river and harbor improvements and important surveys.

The School of Submarine Defense pertains to the special branch of Coast Artillery, and is located at the Long Island Sound entrance to New York harbor, where application of submarine defense may be had for the practical protection of our greatest seaport. This school was formerly a part of the Engineer School of Application, but Congress recently transferred the entire land defense of harbors, including submarine mines and torpedoes, to the Artillery Corps. It would have been desirable to have combined this school with the Artillery School at Fort Monroe, but it was recognized that this place was not well adapted to instruction in submarine defense, and that it was impracticable to give a thoro course in this and allied subjects in the brief period of one year allowed for the general course at the Artillery School.

The School of Application for Cavalry and Field Artillery at Fort Riley, Kansas, is, as its name applies, not so much an establishment for the learning of theory as it is for the practical work and combined maneuvers of cavalry and field artillery. The theoretical work of this school is embraced in the curriculum of the post school for officers, but with the manifest advantage to be derived from the assembling of a much larger number of officers than is ordinarily practicable at other posts.

The Army Medical School, in the District of Columbia, is made a part of the general system of army instruction; it is not a school for the general medical education of young men, but the curriculum comprises a post-graduate course for medical officers who have passed their examinations and have been appointed as assistant surgeons. The course is intended to be of only a few months' duration, and has for its object the special instruction of young surgeons in all their army duties, particularly those relating to hygiene and camp sanitation.

The Army War College, which is located in Washington, has for its object furnishing the opportunity for advanced professional study by selected officers of the higher grades and those graduates of the General Service and Staff College who may be specially recommended for the course. It is not intended that any recitations shall be required at the War College, but every encouragement will be given to selected officers to further develop their talents in the solution of problems of actual practical value to the nation. Systematic study and planning of details for the actual events of war in probable theaters of campaign must prove of great value both to the individual and to the country. To have all conceivable problems of transportation, supply, attack, and defense systematically worked out by specially selected and trained officers is the best preparation possible in peace for war. It is intended that the accepted solutions of these problems shall be filed at the seat of government, available at all times for the use of such armies as may be actually created and employed hereafter in the particular theaters of war considered. It is recognized that this character of work is done in all the more important countries of the world by specially selected officers employed on the general staff, and it is anticipated that the work in the Army War College will gradually prepare a considerable number of officers for the higher duties of such a corps, and that, should they not be called upon to command armies in war, they will at least furnish a grand field from which to select capable chiefs of staff to accompany those generals who may be assigned to command.

The Secretary of War has worked earnestly to bring the officers of the organized militia of the country into active sympathy with this educational movement by throwing open the doors of all the army schools, colleges, and training camps to their participation.

It is fully recognized, in devising this scheme of military education and instruction, that the great and essential point is that each officer shall have his mind so trained that it will act quickly and alertly in all emergencies. It will be useless to train him to make plans which he cannot modify instantly when an active, aggressive, and energetic enemy upsets his previous calculations. History evinces that the ability to do this marks the difference between the successful and unsuccessful commander, in the long run.

It not infrequently happens that an officer without previous military instruction performs duty in the higher grades in such a manner as to excite admiration; such cases should be considered as the exception and not as the rule, for it is only thru systematic instruction and training that the great working machine which makes the success of armies possible can be developed under modern conditions. A patriotic nation which has not been properly supplied, armed, equipped, and prepared for war is doomed to military discomfiture whenever its armies encounter disciplined and instructed troops in anything like equal numbers. This truth is as old the life of armies, but it possesses more force to-day than at any previous period of history. It may be replied that the Boers proved the converse of this statement, but there can be no doubt that the refusal to acknowledge defeat and the continuance of a guerrilla warfare such as has occurred in South Africa and the Philippines is of no benefit to a nation; on the contrary, it almost invariably results in undue devastation, rapine and loss of life. The consequences of such a course, had it been adopted by the Confederates after Lee's surrender, can only be contemplated with a feeling of horror. With all the bitterness engendered by defeat still rankling in their hearts, the Southerners exhibited the highest type of civilization by discontinuing a struggle which furnished no legitimate hope of success.

There is nothing in this scheme for training officers of the regular and militia forces which smacks of "militarism," a glib and meaningless word in America at all times. The whole scheme results from a fixed policy, with its objective to make our small army as perfect as possible and thereby remove all necessity for maintaining a large one under ordinary conditions.

WILLIAM H. CARTER

BRIGADIER GENERAL,
UNITED STATES ARMY

II

BALDWIN'S DICTIONARY OF PHILOSOPHY AND PSYCHOLOGY[1]

The magnitude of the undertaking which has been almost brought to completion, and of which we have the first installment in the present volume, calls for an extended review, written, like the Dictionary itself, "by many hands." This preliminary notice, limited to the first volume, is designed primarily to give an account of the purpose and plan of the whole and only secondarily to criticise details; yet we shall not wholly shirk the latter responsibility. A final estimate must await the appearance of the two succeeding volumes.

The Dictionary is noteworthy, in the first place, simply as a serious attempt to supply a real need—we should rather say several real needs—of the present-day student of philosophy. Perhaps the attempt was too ambitious; conscious of too many needs at once to supply them all with adequacy. To use a biological figure, with no implied disrespect, it suggests in some ways a cross between a lexicon and a cyclopedia, and consequently comes a little short of being quite satisfactory as either.

But especially noteworthy is this particular attempt by reason of the efficient editorial management under which it has been produced. The name of Professor Baldwin as editor-in-chief was a sufficient guarantee of the comprehensiveness as well as of the acuteness of the work. To all admirers of his extensive erudition and to those familiar with his no less intensive industry, his name was an assurance of the completion, despite every obstacle, of a task enough to make most men despair, but which has happily not sufficed to conquer Professor Baldwin's courage.

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[1] *Dictionary of Philosophy and Psychology*, including many of the principal conceptions of ethics, logic, æsthetics, philosophy of religion, mental pathology, anthropology, biology, neurology, physiology, economics, political and social philosophy, philology, physical science, and education, and giving a terminology in English, French, German, and Italian. Written by many hands and edited by James Mark Baldwin, Ph. D. (Princeton), Hon. D. Sc. (Oxon), Hon. LL.D. (Glasgow), Stuart Professor in Princeton University, with the co-operation and assistance of an international board of consulting editors. In three volumes, large octavo, with illustrations and extensive bibliographies. Vol. I. New York: The Macmillan Company, 1901. xxiv+644 p. $5.00. [Vol. II has been issued since this article was in type.]

The editor has been fortunate in the selection of his collaborators, nearly seventy in all, representing almost to a man the ripest scholarship and highest eminence. Two, by the way, are women, Mrs. C. Ladd-Franklin and Mrs. Henry Sidgwick. Among the consulting editors there are four each for French and German terminology respectively, and three for Italian. Of the rest, about one-third are British, about two-thirds Americans. We shall have occasion to mention some of the special contributors below.

The list of collaborators is followed by the Editor's Preface, which is an instructive essay in itself and extremely modest withal. It is, moreover, of importance as suggesting criteria for criticism of the Dictionary, as it takes pains to set forth explicity the design of the whole and the motives which have guided the selection of material. Much criticism is thereby forestalled. But the anticipation of a criticism does not diminish its justice; indeed it would be possible to argue *per contra,* and insist, for instance, that the biographies should have been omitted, rather than deliberately included in their present unsatisfactory form. It is understood indeed that one of the leading counselors of the editor strongly favored this exclusion.

After a general table of contents, and lists of abbreviations, the present volume carries the text thru "laws of thought." The remainder of the text, completing the alphabetical treatment, together with indexes of Greek, Latin, German, French, and Italian terms, will appear in volume 2, while volume 3 will be devoted exclusively to the general bibliographies, prepared by Dr. Rand of Harvard University.

The aim, scope, method, and special features of a dictionary have to be determined in part from the prefatory statement of the editor, and in part also from a study of the actual contents of the work. In what follows we have tried to render a fair, albeit a critical, account of these matters. The two objects which were entertained in the Dictionary's preparation are frankly stated at the outset: "first, that of doing something for the thinking of the time in the way of definition, statement, and terminology: and second, that of serving the cause of education in the subjects treated."

The difficulties to be encountered in the execution of the former intention are freely admitted by the editor, who is in an even better position to appreciate these things than are the infallible critics! The relatively "moderate" and "reasonable" task actually undertaken under this head has been "to understand the meanings which our terms have and to render them by clear definitions, . . . and to interpret the movements of thought thru which the meanings thus determined have arisen, with a view to discovering what is really vital in the development of thought and term in one." Yet a candid examination of the result reveals a degree of obscurity in many of the definitions which may have been inevitable, but which is nevertheless unfortunate. This has arisen in large part out of the wide generality of certain terms, a generality scarcely admitting of their subsumption under more inclusive categories. It is, perhaps, not fair to expect a satisfactory definition of a term like "consciousness," or a term like "being"; altho a frank confession of failure, together with a more encyclopedic discussion (in view, especially, of the method of the work elsewhere), might have proved useful. There is no mention of "self-consciousness" under the one term, or of "non-being" under the other. While no effort has been made to suggest new terms or to enforce novel usages, authority is deliberately invoked and justified as a legitimate and salutary social force (viii).

The educational purpose already mentioned obviously has an important bearing on the scope and in part also on the method and certain special features, *e. g.*, the select bibliographies. This purposeful adaptation to a concrete class with special needs accounts for the inclusion of much which might not be supposed to have a logical place in the work. A dictionary which "aims to fit the student to approach the problems as well as to explain to him the possible solutions of them" must furnish a varied apparatus, indeed, if it would fulfill its propadeutic function.

A word now as to the actual subject-matter of the Dictionary. This comprises philosophy and psychology, together with a large group of allied and ancillary sciences, as indicated on the title page. It may be said, however, that many of these terms properly belong to philosophy as it is conceived by the editor, who defines it as "the attempt to reach statements, in whatever form, about mind and nature, about the universe of things, most widely conceived, which serve to supplement and unify the results of science and criticism." This conception will be seen to embrace the philosophy which Spencer has defined as the unification of the sciences, as well as the fundamental criticism of experience and knowledge with reference to the ideals of human life. Thus philosophy itself, in the former aspect, must include necessarily a number of conceptions which we are in the habit of calling scientific, and in the latter aspect it cannot afford to remain ignorant of these concepts, if it would successfully adjust them to its own ideal standpoint. "It is one of the safest sayings of philosophy, at the close of the outgoing century, that whatever we may become to end with, we must be naturalists to begin with—men furnished with the breast-plate of natural knowledge" (ix). This is an admirable motto, which may well serve to explain and to justify one of the most significant parts of the project. The liberal representation of the natural sciences reflects one of the profoundest features of the *Zeitgeist* and is an earnest of a fruitful reunion of two great endeavors of the human mind in the common search for truth after a long and profitless divorce. From the educational point of view, it is well that a great many terms which the reader of contemporary discussions encounters daily may here be found, although the terms in question may not be properly philosophical *an und für sich*. Another characteristic tendency which is rapidly gaining ground, namely, the tendency to give due prominence to the social sciences and to apply the results of investigation and speculation to the affairs of practical life, is reflected in the inclusion of so large a number of terms in modern casuistry. We are even told at some length why "gambling" is wrong and are otherwise edified anon.

Coming now to the distribution of the departments represented and speaking in a very general way, it may be said that philosophy and psychology are granted the most prominent place and are, on the whole, treated in a satisfactory manner. Two serious deficiencies under philosophy will strike the historical student. The terminology of ancient and mediæval, especially scholastic, philosophy is extremely meager and avowedly so, because of the limitations of space on the one hand, and a change of front in philosophy itself on the other—the "facing of philosophy towards science and modern life, instead of towards logic and ancient life." With the latter defense in mind, however, it is less easy to excuse the inadequacy of treatment in respect of those logical, epistemological, and methodological conceptions which have quite recently come into prominence by the writings of such men as Mach, Ostwald, Petzoldt, and many others. It may be said that while the philosophical articles are good as a rule, they are not treated with such an approximation to uniform excellence as are the articles in psychology (apart from a defect to be noted). The editor and Dr. Stout, either singly or jointly, are responsible for most of the terms in psychology, especially in its general, analytic, and genetic aspects. In these fields may be found discussions, discriminations, and suggestions of the highest value, including some original recommendations (*e. g.*, the distinction between "psychic" and "psychological"). Altho the included experimental articles are carefully written, yet in view of the professed plan and purpose of the Dictionary, the incompleteness of this department is strangely conspicuous. Ethics and anthropology, on the one hand, with mental pathology and neurology, on the other, take second rank. The prominence given to the practical virtues and vices, especially in the articles by Professor Sorley, is, we think, fortunate, seeing that ethics as taught in our universities has, in its high and dry formality, been as remote, to the ordinary consciousness of the student, from the problems of daily conduct as it has been indifferent to scientific method. The articles on anthropology and mental pathology, for the most part by Professor Jastrow, are, as might have been expected, brought into fitting relation to psychology. The pathological articles are particularly good.

Neurological articles, written chiefly by President Herrick and Professor Herrick jointly, are uniformly of a high order, tho the included number might have been increased to advantage.

Æsthetics seems to have been especially well treated by Professor J. H. Tufts. Most of the terms from the whole field are included and discussed with uniform excellence. The references to literature are equally thoro. While some of the best articles treat of logical subjects, yet the field, as a whole, seems to have been somewhat neglected.

Philosophy of religion is not only given a prominent place, but is made to include theology and even church history to an unnecessary, if not an unwarranted, extent. Most of the articles in volume I are by Professor Wenley, who has depended largely upon Herzog's *Real-Encyclopädie,* but has consulted other standard authorities such as Harnack. The relation of the various doctrines, practices, and events to the history of philosophy is made explicit, and this is useful. But nothing similar is done on so large a scale for other analogous departments.

The biological terms, written for the most part by Professors Lloyd Morgan, E. S. Goodrich, and E. B. Poulton, are, of course, well done and are naturally given a prominent place by reason of the editor's special interest as well as the fundamental relation which biology sustains to psychology, but on just what "basis of omission," to quote an eminent American biologist, the editors have proceeded, one is at a loss to see.

Nevertheless in criticising omissions from these outlying fields we must remember that a larger probable error attaches to such subordinate candidates for inclusion than to the terms which belong to the subjects primarily treated, wherefore it might be more gracious to welcome the many extraneous terms drawn from biology and other departments which have found a place within the sage circle than to complain because all such terms have not been accorded the like distinction.

Sociology and political economy, like physiology, are given quite a subordinate place. Indeed, physiology seems to have been unnecessarily slighted, in view of its importance for physiological psychology and of the prominence given to general biology. Just what good purpose the smattering of philological and legal terms, to mention only these, may serve, we cannot see. Perhaps it is dysteleological—a word not in the Dictionary, by the way. After philology and law follow education and physics with mathematics, taking the lowest rank. These last should, we think, have received more attention; physics and mathematics because of the relation of their fundamental conceptions to philosophy and the application of mathematics to scientific method; education for reasons requiring no statement for the readers of this journal. If we begin with the word "education," we find surprisingly small space given to it, and would suggest that a special article might well have been made of it, indicating its scope and bearings. The articles on education have all been written by Professor De Garmo, and are good as far as they go. Most of the terms included are after all psychological, but having in addition an educational application. The more objective historical-sociological aspect of education is almost entirely neglected, in striking contrast with the corresponding aspect of religion. Words like administration, college, and even curriculum are not to be found. It remains to be said, however, that too much of the jargon of "pedagogy"—in the preceding remark we have not had this in mind—has been abused as a substitute for real thinking, and has served only to fix and perpetuate dogmas which neither express nor illuminate any real facts. Besides, the student of education will not care to consult the Dictionary so much for the terms belonging to his special field as for those belonging to psychology and philosophy, so frequently encountered in the literature which he is obliged to read. In general it may, we think, in all fairness be laid down that the specialist will find the Dictionary least useful in his own department, most useful in related subjects. The professional psychologist will perhaps find the philosophical terms or even the religious terms and the biographies of obscure saints and scholars of the Church, of quite as much service to him as the psychological terms themselves. The philosophers should be able to fit definite ideas to the bothersome terms with which the psychology of the laboratory has encumbered their already voluminous vocabulary, and some of their number may be relieved to discover that such a prosaically "exact" science may be offset by a somewhat loose vocabulary, when, for instance, they turn to the word "clang," only to find that the doctors disagree irreconcilably, seven tho they be. It will be agreed that this is not merely or strictly a "dictionary of philosophy," but a "dictionary for philosophers." And we would further suggest that it is a dictionary about philosophy for specialists in other fields. The economist, the clergyman, the physician, even the lawyer, to say nothing of the intelligent teacher, are constantly in need of *reliable* information on points coming under the domain of philosophy and psychology, as herein set forth. We regret the inconspicuousness of education, then, not so much because the specialist in education will miss it, but rather because the student of general philosophy will be given no adequate impression of its proper place in the group of disciplines with which he is concerned.

The general method of the Dictionary calls for special comment. The articles are of three kinds: (1) concise definitions, among which many of those on psycho-physics are models of exact statement; (2) similar definitions with additional historical and expository matter; (3) encyclopedic articles, called "special," selected with more or less obvious reference to the professed purposes of the whole.

Of these last, some are unmatchable outlines of their subject-matter; many are useful in "gathering up" the several terms of a group into a connected treatment of the topic to which they belong; most are interesting, instructive, and well worth reading. We take pleasure in praising—not to name all of the best by any means—the following: "Art and Art Theories," by J. H. Tufts; "Cause and Effect," by G. E. Moore;

"Experience," by G. F. Stout, J. Mark Baldwin, and William James; "Hearing," by C. F. Hodge, C. L. and C. J. Herrick, F. S. Ames, E. B. Titchener, and the Editor; "Idealism," by Andrew Seth Pringle-Pattison; "Illusions of Motion and Movement," by H. C. Warren; "Judgment," by J. Mark Baldwin; "Language," by B. I. Wheeler; "Laws of Thought," by C. S. Peirce and C. Ladd-Franklin. The article "Brain" by the Herrick brothers, at once comprehensive and concise, leaves nothing to be desired in the way of neurological accuracy; indeed it may be doubted whether it will be altogether intelligible to the average student of philosophy, so compact and technical is it. While we miss many neurological terms—the very class of terms with regard to which we stand in sorest need of help—in the body of the Dictionary, we find a formidable array of neuronyms in the glossary appended to this article. Yet the neurologist—even the "mere psychologist," to quote a neurological friend—will find the list incomplete.

Professor Royce's longer articles on special terminologies are valuable. The aim has been in each case to discuss the function of "representative terms" in the philosophical system to which they belong rather than to attempt an exhaustive enumeration of terms and definitions of them *seriatim*. To each article is added a "glossary," more accurately an index, of the terms discussed. The discussions of Kant terminology (9 pp., 48 terms) and of Hegel terminology (11 pp., 70 terms) should be especially useful—altho, in the case of Kant, only the first *Critique* has been seriously considered. The summary articles on Greek terminology (8 pp., 36 terms) and Latin and scholastic terminology (11 pp., 57 terms) are conspicuously incomplete, altho they are intended to compensate in reasonable measure for the meagerness of these departments thruout the book.

While the reader of experimental literature will look in vain for many terms, he will in some cases be referred to "Laboratory and Apparatus," where he will find 11 pages, packed with information, compiled by Professors Cattell, Baldwin, Titchener and Warren. Yet we venture to question the usefulness of the article, as it stands. An index might improve it. Such departments as Comparative and Individual Psychology should have received fuller treatment.

The shorter expository articles seem, on the whole, the most useful; they are good, bad, and indifferent—exceptionally few, however, being bad. Fechner's law is clearly distinguished from Weber's; one fails to get the clearest impression, however, from the interesting account of henotheism, which omits explicit recognition of an historical confusion between two interpretations. It was, of course, unavoidable that different contributors should have conceived their function differently. It is plain enough that definition has not meant the same to all.

Foreign equivalents in the three principal languages of the continent are given under each term. Professors Morselli and Flournoy are singled out for our especial gratitude in this connection. Here we must defer to the knowledge of the foreign advisers and the judgment of the editors, yet it will surely not be amiss to suggest that a more complete list of synonyms might have been given. *E. g., Descendenzlehre* only is given as the German equivalent of the "doctrine of descent"; *Descendenztheorie* is not mentioned, altho it is in good usage and exactly analogous to the French and Italian equivalents. The promised indexes of foreign words and phrases will enhance the value of the work, especially for translators.

The select bibliographies at the end of each article should be of the highest service to general readers and especially to students. Yet they have not been prepared with equal care.

The want of uniformity in the general method extends to all the details of lexicography, including orthography—but these are perhaps matters which philosophers may despise. There is something to shock the mere scholar on almost every page.

Enough has been said already to show that the Dictionary is not the work of one man. The several articles were assigned to presumably competent specialists, after which they were in most cases perused by one or more consulting editors, and in many cases supplemented or corrected (not to mention those entirely rejected) by the editorial board. The editor-in-chief has assumed final responsibility for the result—a responsibility which, he tells us, he has used freely. Whether too freely must be left to each student of the Dictionary to decide for himself—a vote of the contributors even would hardly be fair! In a fairly definite way, however, one can discriminate the parts of individual collaborators, as articles and even portions of articles are initialed.

Co-operation is one of the leading, as it is one of the most salutary, features of the work. The mere fact of co-operation gives content to the authority which is assumed, while it conduces to an humble diffidence and deference on the part of the individual reader. "You are one, we are many," the editor reminds us, in words that cannot be gainsaid. Yet the result of co-operation again and again demonstrates how variable usage may be in these fields and how individual and subjective a thing psychology is, in contrast, for example, with physics. At places co-operation culminates in conflict—perhaps our Hegelian friends will not be surprised at this—*e. g.,* in the article "Consciousness of Kind." After a first reading of the article "Heredity," "in which," we are told, "positive views are expressed," requiring the support of more than one contributor, we were led to wonder whether Homer had nodded five times over, or whether too many good cooks had spoilt the broth. Quite apart from the propriety of making "Social Heredity" co-ordinate with "Organic Heredity" the "positive views" apropos of the bearings and alleged consequences of the law of probability—professedly indorsed by all whose initials are subscribed, and therefore presumably understood by at least five gifted minds—seem to have little place in the article. Perhaps a certain degree of haziness is to be expected in a composite photograph—but irrelevancy is quite another matter.

We have already intimated that the biographies are, by admission, the least adequate part of the Dictionary. We do not criticise the omission of living men, interesting and useful as their biographies would be. We mean that relatively little thought has guided either the selection of names or the preparation of the sketches. Here, even far more than elsewhere, the length of an article gives no indication whatever of its importance—not even inversely! One sentence, probably added by the editor to the enumeration of circumstantial data, characterizes the late Professor Cope's position in a manner altogether admirable, but when we turn to Huxley we find only an enumeration of positions and dates with nothing to suggest his especial claim to a place in the work. Galileo, Laplace, Humboldt, Agassiz are missing. So is Goethe,—yet we are told that Emerson was a Unitarian minister who resigned because he could no longer conscientiously administer the Lord's Supper, that he was a friend of Carlyle (whose biography is omitted), and that he began to lecture in Boston Mechanics' Institute. Six lines are granted to David Hartley—so important in the history of the associationist psychology; there is not even a reference to the article "Associationism," where Hartley is properly quoted at some length. Yet assuredly Hartley is as considerable, if not as interesting a figure as the late Rev. Lyman Hotchkiss Atwater, who long since served by turns in several useful capacities in the then College of New Jersey. When, in addition, three Alexanders of Princeton and two Hodges are wrought in, we get an impression of "local color" more fitting in a novel than in a dictionary. We miss in many of these biographies the references to literature which we have praised in the other articles.

No indication of pronunciation is given, a regrettable loss, we think, which might easily have been avoided. How few lecturers, even among neurologists, conform to the usage which the rules of Latin quantity suggest and the standard dictionaries recommend in the pronunciation of a word continually upon their lips—cérebrum.

We have been characterizing the scope and peculiarities of the Dictionary in rather general terms, nor can we hope within the compass of a single review to do otherwise. Yet a few concrete cases should be added to illustrate our statements.

The range and variegation of the contents may appear from a selection, made almost at random, of one word from each letter: appetite, becoming, chronic, drunkenness, effect, "fluttering heart," grief, hell, introspection, judgment, karma, law.

There is a rather prominent article on "Domesticated Animals," another on the "Humiliation of Christ." Amulet, canonization, Chiliasm, Halacha, and Haggada stand out prominently. Antennæ, cœlom, Entozoa ("a word formerly used for internal parasites") appear. While geometry is included, algebra is not. "Determinants" are defined in the biological sense, at the expense of the mathematical. Embryology and histology find a place, not so anatomy. Ethology is defined only as a moral science, not as a biological, altho it is emphasized in such a standard work as Parker and Haswell's *Text-Book of Zoölogy*. Neither ecology nor æcology is given. Nor chorology. Under ætiology, the biological meaning suggested by Huxley is not given, but it may be found, along with other meanings, under etiology, of which an independent article is superfluously made. On p. 54, under "anthropology," the word is used in this sense, as a caption, and spelled "ætiology." Cosmic emotion, ethelism, energetics, euhemerism, inducto-deductive have been overlooked. Under "idols" (Baconian) we are referred to Eisler's *Wörterbuch*, whereas a brief enumeration of the species would have been so easy. We fail to find the following terms taken from the index of Witmer's new elementary experimental manual:[2] accordant, adequate stimuli, adjustment (of sense organ), amplitude, coordination, diffusion, distinct vision, equivocal (stimuli and figures), false perception, focus, heteronomous and homonomous (homonymous in philology and heteronomy in ethics are given) interference, inversion (of retinal image), etc. This list does not include names of the parts of sense organs and of the nervous system, exceptionally few of which occur, yet enough and such as to compel criticism of the rule. Eye, ear, aqueous humor, cochlea, cerebrum, cerebellum do not occur under their initials, while cerebral vesicles, gyrus, and others do. We miss the "Golgi method" and bipolar (apolar is in). The color theories cannot be found under the names of their authors, yet the James-Lange theory of emotion is given. Other omissions are acuity, adaptive reaction, association-time, discrimination-time, choleric, consentience. Professor Münsterberg's *Actionstheorie* and his (psychic) atoms are perhaps too new for inclusion.[3] But "afferent" should be given. There is under "efferent" a reference to it, also to centripetal, but we have failed to find either. This suggests a general remark to the effect that synonyms, antonyms, and companion terms have not received due attention.

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[2] *Analytical psychology.*

Despite the emphasis of recent biological and evolutionary discussion we miss "anagenesis" ("acceleration" is given) and "catagenesis," "anaplasis" and "cataplasis," "assortive mating," "autogeneric" and "heterogeneric," "bioplastology," "biparental," "blastogenic," "chemism" and "antichemism," "chematropism" and "galvanotropism" with their allies ("heliotropism" is given,) "cryptopnoy" "exclusive inheritance," "genesiology," "gerontic," "gonogenic," kinetogenesis, etc., all of which occur in the standard writings of Cope, Hyatt, Loeb, Pearson, or the like.

Bregma, inion, and other anthropological terms are mentioned only in the general articles. Correlation (theory of), deviation, interpolation, fraternity, cofraternity are among the terms used by statistical students of biology, anthropology, and psychology which are omitted. "Frequency" occurs. Accelerator, inhibitory, constrictor, dilator (all used p. 51), augmentor and depressor, compensatory movements, elasticity and extensibility (of muscle), electrotonus and (nervous) impulse are lacking, while other terms less relevant are not, *e. g.*, heart.

It remains to record a few minor inconsequences and errors, chiefly typographical. There is under "Determinism" a reference to "free will controversies" with no article to correspond. The late Thomas Davidson founded his school of philosophy in Keene Valley, N. Y., not at Keene, N. H., as stated (p. 253). In the article "Impulse" (p. 527) the

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[3] In a second edition such recently proposed terms as antitypien, antiklinesen, kleronomie, enbiontic, etc., should be given place. See: Beer, Th.; Bethe, A., und v. Uexküll, J. *Vorschläge zur einer Objectiverender Nomenclatur in den Physiologie des Nervensystems. Biol. Centralbl.* XIX. Bd., 1899. No. 15, S. 517 (Also *Centralbl. für Physiol.*, Bd. XIII. 1899, No. 6, S. 138); Ziegler, Heinrich Ernst: *Theoretische zum Tierpsychologie und vergleichenden Neurophysiologie. Biol. Centralbl.* XIX. Bd., 1900. No. 6.

"(q. v.)" after "instinct-feeling" has no place, as we are referred back to impulse without more ado. On page 67 *homo-ousious* should read *homoi-ousious,* as applied to the doctrine of the Semi-Arians. Under "Agnosticism, *Literature,*" the reference to Huxley's *Essays* should include vol. v, which contains the account of the origin and significance of the term as used by himself. W. H. Clifford (p. 296) should read W. K. Clifford; etc.

It is to be wondered that there are so few errors. The proof has been exceedingly well read. And altogether the Dictionary is a handsome piece of book-making—the work of the Oxford press. Type, paper, and margin are all that could be desired; the book is well bound and opens well, altho the cover seems a little light for the volume, which is perhaps a trifle heavier than it might be.

While no other dictionary in the field can bear comparison with this, considered as a whole, there are some, even in English, which will still continue to be of use and some that will remain indispensable. Students have told us that they have received help from their Krauth-Fleming where the present volume has failed them. Eissler's *Wörterbuch* will not soon be supplanted in the field of the history of philosophy. For ready reference, and lexicographical perfection, the *Century dictionary* (here largely drawn upon for words and etymologies) will be more useful. But the Dictionary under review is concerned more with conceptions than with terms as such. The careful student will prefer to consult such works as the new *Encyclopædia biblica,* by Cheyne and Black, Buck's revised *Reference handbook of the medical sciences,* Tuke's older *Dictionary of psychological medicine,* etc., on the special topics of which they treat.

But it is a decided advantage to the beginner and the general student to have several related subjects brought within the compass of a single compendium, and distributed, so to say, in a "fringe of relations" round about the dominant "topic" of the whole. It is a liberal education in itself to turn the pages of Baldwin's *Dictionary of philosophy and psychology.* 'Tis indeed a pity there is so little likelihood that the *homo unius libri* will choose this book!

In the foregoing pages we have pointed out defects along with excellences, but with no intention of wholesale disparagement. On the contrary, the very importance and general success of the enterprise have obliged us to try and indicate such shortcomings as have appeared to us. The Dictionary can well bear the strain of any criticism that may be urged against it in parts. Besides, the "personal equation" is present in a review no less than in the book itself. Criticism should be impersonal, but free; it should aim at justice, altho it may come short of attaining it. We have spoken freely, yet not without diffidence. Difficult as it is to review a dictionary, it is yet more difficult to edit one. There are almost unsurmountable obstacles to the success of a program like this. Editors and publishers deserve congratulation, and after congatulation encouragement. It is to be hoped that writers in the subjects principally treated will conscientiously consult the Dictionary, altho in some cases with the result of rejecting its recommendations. Such a co-operative effort should be given a fair trial, and all who are interested in the intelligible expression of clear thinking and the correlation of the philosophical sciences should do their proportional part toward the fulfillment of the modest and reasonable hope of the editor, who says, "May the future Dictionary of Philosophy profit somewhat by our labors, and if it profit also by our mistakes, that will be no less a point of justification for our endeavor." To which let us add the hope that the future Dictionary of Philosophy may be the natural outgrowth of this auspicious beginning. *Forsan et hæc olim meminisee juvabit.*

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III

THE TEACHING OF GEOMETRY

1 *The time has come for advance*—Just a hundred years ago, December 15, 1802, was born John Bolyai, the first who, without preliminary mistakes or long struggles and doubts, but by a masterful explosion of pure genius, before he was twenty-one, as he wrote, " from nothing created another wholly new world."

In the broadened spatial universes, the researches, chiefly of the last half century, on the foundations, the principles, of geometry, have given new results as important as unexpected; new instruments and methods of investigation, powerful, deep-reaching; new insights penetrating at last behind the mirrors which for two thousand years had dazzlingly protected from perception both the flaws and triumphs of Euclid's marvelous construction.

It is time now that the creation of non-Euclidean geometry, and the subsequent work of the masters on the foundations and meaning of geometry and science, so fruitful for the theory of knowledge, for Kenlore, should be made fruitful for the general teaching of elementary geometry. Geometry, always relied upon for training in the logic of science, for teaching what demonstration really is, must be made worthy the world's faith. There must be a text-book of rational geometry really rigorous.

2 *Need for a preliminary course*—But such a book will not be adopted for children. One advance which has been safely won, and may be rested on, is that there should be a preliminary course of intuitive geometry which does not strive to be rigidly demonstrative, which emphasizes the sensuous rather than the rational.

America is pushing to benefit by this advance. We have Hill's *Geometry for beginners,* Campbell's *Observational geometry*, including construction of models, Hailmann's *Con-*

structive form work in geometry, of which the preface says, "The purpose thruout is to develop clear geometrical notions, to give skill in accurate construction, to cultivate a healthy æsthetic feeling, the power of visualizing creatively in geometrical design, and thus, incidentally, to stimulate genuine vital interest in the study of geometry." Also we have Hornbrook's *Concrete geometry,* and others of like scope. The field in education is a proper one and has come to stay.

3 *The preliminary must fit the rational geometry*—As to how properly any one of these books covers the field, despite their good intentions, that is wholly another matter, and sends us back post-haste to the desideratum, the rigorous treatise on rational geometry. In illustration I give the following quotation on mechanics from Dr. E. B. Wilson, "The laws of Newton, as stated by him and used for two centuries, no longer satisfy us." This lack of satisfaction is but one of the many similar manifestations of the present state of mathematical instruction and mathematical science. We are no longer content to bear with superficially clear statements which seldom if ever lead into actual error—nor does it suffice to start with inaccurate statements and, as we advance, to modify them so as to bring them into accord with our wider vision and our more stringent requirements. We must from the beginning bring up ourselves and our pupils on, not only the truth, but the whole truth.

How soon the recent researches of Hilbert and others on the foundations of geometry must take their place in elementary text-books on plane and solid geometry cannot be said. But that is purely a matter of time unless some reactionary tendency sets in—and there are some who think it already beginning to set in. At present, however, the treatises and text-books on mechanics are filled with a deal of half scientific, half metaphysical, and generally quite crude discussion of the underlying principles of mechanics.

To show the application, I quote from the very first section of Hill's *Geometry for beginners:* "We cannot define space . . . what space is, where it begins, or where it ends; these are questions which no man can answer." This is a confident metaphysics, but it would find many enemies. Wise men say that space is a creation of the human mind, entering as a subjective contribution into nearly every experiment. Experience is in part created by the subject said to receive it, but really in part making it. One may define the geometric continuum as an aggregate of points which satisfy certain conditions, geometrically sufficient. One may define geometric space by deducing from its construction all its geometric properties, as we do for the plane, which may be looked upon as a simpler kind of space.

The axiom, "Thru a point we can draw only one parallel to a given straight," Poincaré declares to be a disguised definition:

"§ 17. If a point move always in the same direction, its path is a straight line; if the direction of its motion is continually changing, its path is a curved line."

But what is meant by "motion," "direction," "continuous"?

"§ 32. The straight line which passes thru two points is shorter than any other line passing thru the points, and hence its length is taken as the distance of the points from each other. We all learn as soon as we begin to walk that a straight line is the shortest distance between two points."

As to this hopeless muddle, which has been condemned *ad nauseam,* notice that it is senseless without a definition for the length of a curve. America awaits a "Geometry for beginners" written by someone familiar with the new, penetrating, critical researches in the principles of geometry. Meanwhile every conscientious teacher must better from his own studies the book he is still forced to use. He has no right to dump into a helpless scholar what he knows to be trash. Upon the scientific depends the educational problem.

4 *Discussion before the British Association*—Quite appropriate, therefore, was the discussion on the teaching of mathematics before Sections A and L of the British Association at Glasgow in 1901. In general spirit this discussion was distinctly anti-Germanic, anti-Euclidean, and perhaps is what is referred to above as reactionary. The leader, John Perry, gives some excellent commonplaces, thus, "Now in my experi-

ence there is hardly any man who may not become a discoverer, an advancer of knowledge, and the earlier the age at which you give him chances of exercising his individuality the better," etc. But Mr. Perry need not have waited for his own experience to know this. It is in all the books, notably in Todhunter's *Conflict of studies,* where he argues for the study of geometry because even in its most elementary parts it gives such perennial opportunity and incitement to discovery, and the new discoveries are really so beautiful, interesting, unexpected, important.

What, then, can possibly be the explanation of such sentences from Perry as the following: "But I would like to point out that ours is an altogether foolish way of producing the mathematical master also. To the age of twenty-four one may say that the very brightest mathematical minds of the world are being trained on problems about which there is nothing new, in the study of which there is absolutely no chance of a new discovery." Mr. Perry may of course speak for himself; but this very year in my class a young man under twenty proved that of the great Hilbert's "betweenness" assumptions, one of the five is redundant, and by a proof so elegant as to bring from high authorities spontaneous letters congratulating him and the University on the achievement.

Under Hilbert the young Max Dehn at twenty-one discovered two new systems of geometry, the Non-Legendrean and the Semi-Euclidean, and proved that the treatment of equivalence by cutting into a finite number of parts congruent in pairs can never be extended from two to three dimensions. Even in England, no doubt Mr. Perry is mistaken, as he is in his naïve notion that to use spherical harmonies or Bessel functions is "to be able to start in mathematics at Cambridge just about the place where some of the best mathematical men now end their studies forever."

Mr. Perry has a personal antipathy to "a perfect logical system" "deduced logically from simple fundamental truths." "As soon as we give up the idea of absolute correctness we see that a perfectly new departure may be made in the study of mathematics," and Mr. Perry proceeds to call for the new departure: "Giving him the whole fifth book of Euclid by simple algebra," and so on.

5 *Rigor gives simplicity*—But as Hilbert says: "The requirement of rigor, which has become proverbial in mathematics, corresponds to a universal philosophical necessity of our understanding; and on the other hand, only by satisfying this requirement do the thought content and the suggestiveness of the problem attain their full effect. Besides, it is an error to believe that rigor in the proof is the enemy of simplicity. On the contrary we find it confirmed by numerous examples that the rigorous method is at the same time the simpler and the more easily comprehended. The very effort for rigor forces us to find out simpler methods of proof."

Mr. Perry says, "I wasted much precious time of my life on the fifth book of Euclid." For my own part, nothing ever better repaid me. It is for me the simplest treatment of geometric proportion. Its difficulty comes from trying to insert in it ratio as a number. Says Mr. Perry, "If we begin our study as the Alexandrian philosophers did, with their simplest ideas in arithmetic and geometry, we shall get stale before we know much more than they did." But the late progress of science has been just contrary to what Mr. Perry supposes, so that he may properly be termed reactionary. Legendre attempted a reform in the teaching of geometry, and from that unfortunate reform the world has not yet wholly recovered: witness what Jules Andrade calls "cette malheureuse et illogique definition" (Phillips and Fischer, § 7) —"A straight line is a line which is the shortest path between two of its points."

Legendre did what Perry now recommends, he spoiled the purity and simplicity of Euclid by the introduction of arithmetical procedures and gave the fifth book by algebra. Legendre was tried in France, Italy, America. I was prepared for Princeton College in Legendre. Fortunately for me Princeton was still teaching Euclid. In Italy, Betti and Brioschi made a new translation of Euclid which was officially required, especially with the aim of excluding this intermingling of arithmetic and algebra in the pure geometry.

6 *Exactitude the most important factor*—For teaching, that which is of the most absolute importance is the exactitude of the reasoning, therefore all postulates really used should be explicitly enunciated. But Legendre, besides those he gives, uses many others tacitly. To see how badly Legendre could reason, consult the Introduction to Lobachevski's *New principles of geometry.*

7 *Euclid's unannounced assumptions*—But next, with the new powers of insight given by the non-Euclidean geometry, it was found that even the great master Euclid made unannounced assumptions. Euclid's first proposition is "To describe an equilateral triangle on a given (finite straight line) sect." He begins thus: "Let A B be the given sect. From the center A, with radius AB is described the circle B G D, and again about the center B with radius B A the circle A G E, and from G, the point in which the circles cut," and so on. This assumes that the circles used in the construction intersect. Thus, before the construction can be known to succeed, we must know the following theorem: If A and B be any two given points, there is at least one point G such that A G and B G are each congruent to A B. This theorem may be deduced from a continuity assumption.

But nearly the whole of Euclid can be obtained without any continuity assumption whatever, not even the Archimedes postulate. Euclid therefore starts wrong. His Propositions 22 and 23 "To make a triangle from given sides," and "To make an angle congruent to a given angle," involve a like lemma, that is, involve a continuity assumption. Moreover, since in Riemannian space it is not always possible to construct an equilateral triangle on a given base, Euclid's Prop. 1 needs the theorem that the straight is not closed, is not finite. This involves the consideration of a wholly new set of assumptions, none of which are explicitly given in Euclid. I call them the "betweenness" assumptions.

As a first hint toward their introduction see Halsted's Lobachevski's *Theory of parallels,* p. 12. "§ 3. A straight line sufficiently produced both ways must go out beyond all bounds, and in such way cuts a bounded plane into two parts."

For its application, see the same translation, p. 15, § 17; "Thus we get a triangle A C G, into which the straight E F goes; now since this latter, from the construction, cannot cut A C, and cannot cut A G or E K a second time (§ 2), therefore it must meet C D somewhere at H (§ 3)."

8 *The betweenness assumptions*—This is what is now called Pasch's assumption and is given by Hilbert as his "II 5. Let A, B, C be three points not co straight and *a* a straight in the plane A B C striking none of the points A, B, C: if then the straight *a* goes through a point within the sect A B, it must always go either thru a point of the sect B C or thru a point of the sect A C."

In Hilbert's set, the three other necessary betweenness assumptions are: "II 1. If A, B, C are points of a straight, and B lies between A and C, then B also lies between C and A.

"II 2. If A and C are two points of a straight, then there is always at least one point B, which lies between A and C, and at least one point D, such that C lies between A and D.

"II 3. Of any three points of a straight there is always one and only one, which lies between the other two."

Hilbert's axiom II 4 is redundant, just as is Euclid's "All right angles are equal."

The betweenness assumptions or the infinity of the straight must also be presumed in Eu. I. 16.

But in the very first proposition there is implicit still another presumption, namely that the sect A B is always congruent to the sect B A.

It is said that his despairing of a pure logical proof of this drove Bolzano to abandon the pure logical founding of geometry. And even all this is not all.

9 *Superposition*—Bertrand Russell says the first proposition "presupposes the fourth. We require the axiom: on any straight line there is at least one point whose distance from a given point on or off the line exceeds a given distance."

The fourth proposition is a tissue of nonsense. Superposition is a logically worthless device; for if our triangles are spatial, not material, there is a logical contradiction in the notion of moving them, while if they are material, they cannot be perfectly rigid, and when superposed they are certain to be slightly deformed from the shape they had before. What is presupposed, if anything analogous to Euclid's proof is to be retained, is the following very complicated axiom, etc.

" The sixth proposition requires an axiom," and so on.

The seventh proposition is so thoroly fallacious that Euclid would have done better not to attempt a proof. In the first place it uses an undefined term in the enunciation, namely, *on the same side*. The definition requires an axiom, etc. (A " betweenness " question.) I. 8 and I. 26 involve the same fallacy as I. 4. I. 12 involves the assumption that a straight having a point within a circle has two points on it.

10 *Mathematical Association committee report*—It is highly noteworthy that the brief paper from which we have just quoted immediately precedes, in the *Mathematical gazette* for May, 1902, the report of a committee of the Mathematical Association which says (p. 168), " No proof of a theorem should be considered invalid by reason of an assumption that a line or an angle may be divided into any number of equal parts." (Away goes the impossibility of trisecting an angle.)

And again, § 9, " Proof of *congruence* by superposition, and, in particular, proof of symmetry about a line by folding should be considered fundamental methods of proof."

" § 22. That I. 26 be proved by superposition."

" § 39. That III. 26, 27 be stated as one proposition, and be proved by superposition."

11 *Motion*—This certainly brings us face to face with the question of motion, of displacement. The feeling against motion as fundamental in geometry is a most striking output of the highest, purest, new geometric thought. It belongs essentially to Veronese and Hilbert. Max Simon says it is a fault that Euclid did not include the congruence theorems among the assumptions. In his lectures Hilbert did so include Euclid I. 4. In the *Festschrift* this is slightly modified into assuming that if two sides and the included angle are congruent, the other two pairs of angles in the triangle are also congruent. Does not rigid motion or displacement necessitate as geometric

substratum the presumption that there exist thruout space continuous systems of figures congruent to the figure to be displaced? If so, to attempt to prove by it the fundamental congruences is a *petitio principii.* So must be any attempt to define congruence by motion. Moreover, as Veronese says, the postulate of rigid motion involves complicated conditions, such as that of continuous systems, not at all necessary for the equality of figures.

12 *Congruence and symmetry*—From like constitution of figures in themselves, congruence differs in containing another notion, the like sense of the figures in the space containing them. Veronese holds it necessary, therefore, to establish the equality of figures independently of movement without deformation, to introduce at proper time the concept of sense of figures in the plane and in space, then to define congruent equality (figures of same sense) and symmetric equality (figures opposed in sense). Then the principle of mobility without deformation will find its geometric explanation. Thenceforth it may be used, since it will then correspond to concepts and properties geometrically well established.

In his lectures, Hilbert says of Theorem 18 of the *Festschrift:* "This theorem expresses the existence of a certain reversible unique transformation of space into itself with which we are familiar under the name *motion.* We have here founded the idea of motion upon the congruence assumptions. Thereby we have based the idea of motion on the congruence idea. The inverse way, to try to prove the congruence assumptions and theorems with help of the motion idea is false, since motion cannot be defined without the congruence idea."

13 *The real beginnings*—Instead then of Mr. Perry's dictum, "as time goes on we must begin farther and farther from the real beginning of the subject," we find that at length we may begin from the real beginnings, thus saving immeasurably in simplicity and speed of progress. In his Paris address Hilbert says: "Let us look at the principles of analysis and geometry. The most suggestive and notable achievements of the last century in this field are, as it seems to me, the arithmetical formulation of the concept of the continuum, and the

discovery of non-Euclidean geometry." Mr. Perry seems never, by chance, to have heard of either.

14 *Alfred Lodge on reform*—The same may be said of Professor A. Lodge and Professor Hudson, if we may judge by what is given in a Discussion on Reform in the *Mathematical gazette,* January, 1902 (p. 142):

"Professor Lodge in reply said, Professor Hudson had suggested that the definition of an angle should be the modern one: the rotary one. If you permit this, you could prove Euclid I. 32 as early as you please. For if a line, initially coinciding with A C D, revolve about A thru the angle A and then about B thru the angle B, the angle (B C D) which it now makes with its initial position must be equal to the sum of the angles A and B thru which it has revolved. (Professor Hudson has stated that the exterior angles were shown equal to four right angles by taking three chairs and walking once round them)."

This is the fallacious "quaternion proof" of the indemonstrable parallel postulate. Three different demonstrations of its fallacy are given in my Bolyai's *Science absolute of space,* pp. 65-71. Professor Lodge's paper is otherwise surprising. He says: "The pupil's mental equipment is chiefly arithmetic and algebra, and his geometry should be built on these notions as much as possible. Euclid approached arithmetic thru geometry. We have to do the reverse. I believe we could not do better at the outset than adopt some French text-book as our model. The chief points are: (2) The entire separation of theorems from problems of construction, hypothetical constructions being used in proving a theorem; (4) the adoption of arithmetical notions and algebraic processes; (6) insistence on accurate figures drawn by accurate and practical processes."

15 *The definition of straight as shortest*—"Also I. 24, 25, being obviously related to I. 4, are made to immediately follow it in such of the French books as define a straight line to be the shortest distance between two points." Professor Lodge, then, does not know that the French themselves have repudiated this nauseous pseudo-definition. Of it Laisant says (p. 223): "This definition, almost unanimously abandoned, represents one of the most remarkable examples of the per-

sistence with which an absurdity can propagate itself thruout the centuries.

"In the first place, the idea expressed is incomprehensible to beginners, since it presupposes the notion of the length of a curve; and further, it is a vicious circle, since the length of a curve can only be understood as limit of a sum of rectilinear lengths; moreover, it is not a definition at all, since, on the contrary, it is a demonstrable proposition."

16 *Hypothetical constructions*—Again, to use, in rational demonstrative geometry, hypothetical constructions in proving theorems would be degeneracy. This insidious error has crept into American geometries and is taught by Beman and Smith (p. 70) in the following words: "Note on Assumed Constructions. It has been assumed, up to Prop. XXVIII, that all constructions were made as required for the theorems. Thus an equilateral triangle has been frequently mentioned, altho the method of constructing one has not yet been indicated: a regular heptagon has been mentioned in ex. 93, and reference might be made to certain results following from the trisection of an angle, altho the solutions of the problems, to construct a regular heptagon, and to trisect any angle, are impossible by elementary geometry. But the possibility of solving such problems has nothing to do with the logical sequence of the theorems."

This is a fundamental error. Thus we have already seen that the hypothetical construction of an equilateral triangle not only requires and presumes a whole group of assumptions of which Beman and Smith's geometry is ignorant, the "betweenness" assumptions, but also a continuity assumption unnecessary for the establishment of Euclidean geometry. Hilbert's assuming this construction would have shattered his whole edifice. The tremendous existential import of the construction so glibly assumed, to pass a circle thru any three non-costraight points, will be recognized when I say that in general it is not possible.

If we might assume every three points either costraight or concyclic, we could prove the parallel-postulate.

Says W. Bolyai in *Kurzer Grundriss*, p. 46: "Könnten jede

3 Puncte, die nicht in einer Gerade sind, in eine Sphäre fallen; so wäre das Eucl. Ax. XI bewiesen."

17 *Problems as existential propositions*—Says Helmholtz: "In drawing any subsidiary line for the sake of his demonstration, the well-trained geometer asks always if it is possible to draw such a line.

"It is notorious that problems of construction play an essential part in the system of geometry. At first sight these appear to be practical operations, introduced for the training of learners; but in reality they have the force of existential propositions.

"They declare that points, straight lines, or circles, such as the problem requires to be constructed, are possible under all conditions, or they determine any exceptions that there may be."

18 *Double import of problems*—In rational geometry, what are called problems of construction have a double import. Theoretically they are really theorems declaring that the existence of certain points, sects, straights, angles, circles, etc., follows logically by rigorous deduction from the existences postulated in our assumptions. Thus the possibility of solving such problems by elementary geometry is a matter absolutely essential in the logical sequence of our theorems.

So, for example, if we have rigorously shown that any sect has always trisection points, this demonstration infallibly furnishes a solution to the problem: to trisect any sect. Now it so happens that without a specific continuity assumption we cannot prove that any angle has always trisection rays.

With the postulate of Dedekind this could be proven, but not with the ordinary postulates, the postulates of Euclid, the straightedge and compasses. Thus any reference to results following from the trisection of the angle would be equivalent to the introduction of an additional assumption. But problems of construction have, on the other hand, always had reference to practical operations, usually for drawing on a plane a picture which shall serve as an approximate graphic representation of other data and results of the existential theorem.

19 *Use of Figures*—Here we have the question of figures,

whose accuracy seems so important to Professor Lodge. But Bertrand Russell says of Euclid I. 1, "The first proposition assumes that the circles used in the construction intersect—an assumption not noticed by Euclid because of the dangerous habit of using a figure." Said Hilbert in his lectures: "We will in what follows make frequent use of figures, *but we will never depend upon them.* Always must we take care that the operations undertaken on a figure retain also a purely logical validity. This cannot be sufficiently stressed. In the right use of figures lies a chief difficulty of our investigation."

20 *Poisoning from a figure*—A particularly interesting case of poisoning from a figure is the second in my article "Proving the False" (*American mathematical monthly,* May, 1902), because the figure used by Professor Zerr was, as Professor Lodge insists, "accurate." We cannot rely upon what we suppose to be our immediate perception of the spatial relations in even the most accurate obtainable figure. In rigorous demonstration, the figure can be only a symbol of the conceptional content covered by its underlying assumptions. The logical coherence should not be dependent upon anything supposed to be gotten merely from perception of the figure.

21 *Aid from figures*—Yet the aid from figures, from spatial intuition, is so inexpressibly precious that any attempt even to minimize it would be a mistake. The beginner's course in geometry should be largely in sensuous familiarization with the figures, while in rational geometry that treatment of a proposition is best which connects it most closely with a visualization of the figure, while yet not using as if given by the figure concepts not contained in the postulates and preceding propositions.

22 *Graphics*—Our assumption, "two points determine a straight," postulates the existence of a straight as the result of the existence of two points.

This may be taken as authorizing the graphic designation of points and the graphic operation to join two designated points by a straight, and as guaranteeing that this operation can always be effected. Confining ourselves to plane geometry, on the basis of assumptions we authorize the graphic operation to find the intersection-point of two coplanar non-parallel straights, and guarantee that this may always be accomplished.

To perform practically these graphic operations, that is for the actual drawing of pictures which shall represent straight lines with their intersections, we take as granted the use of a physical instrument whose edge is by hypothesis straight, namely the straightedge, or ruler.

Such graphics Veronese considers as a practical application of rational geometry, and admits for it an additional postulate, that of motion without deformation, saying, " the postulate in question is precisely one of those which it is necessary to admit as a *means* of constructing practically the figures, but which is not necessary for the abstract geometric construction of these figures."

23 *Arithmetic in geometry*—Finally, Professor Lodge's recommendation for the early intermingling of arithmetic and algebra in geometry has against it the outspoken testimony of every great authority. In fact Sophus Lie concludes, that " geometry shall in its different stages so far as possible be established purely geometrically, that is a requirement to which surely everyone will subscribe."

Hilbert's position we have already indicated. Says Veronese, " Let us consider now what are the modes of exposition best suited to the teaching of elementary geometry." Even from the scientific point of view the best method is still the geometric method, since it flows from the constitutive process of the intuition of space. Since this intuition is a condition primordial and essential of geometry, to which it furnishes the first geometric objects and their indemonstrable properties, the best method is this which, beginning from these first properties, studies directly the divers elements of the figures so that one can follow step by step the reasoning in having recourse to spatial intuition."

Our own Special Report on Demonstrative Geometry, 1893, says: " Indeed the student is most likely to become a sound geometer who is not introduced to the notion of numerical measures until he has learned that geometry can be developed independently of it altogether. For this notion is subtle, and highly artificial from a purely geometrical point of view, and its rigorous treatment is difficult. The student generally only half comprehends it, so that for him demonstrations lose more in rigor as well as in vividness and objectivity by its use than they gain in apparent simplicity."

24 *Necessity for non-Euclidean geometry*—On page 58 of Perry's book we see that Professor Lodge's ignorance of non-Euclidean geometry allows him, in his advice, to make actual blunders in elementary geometry. He says: "I believe the theory of parallels would be much simplified if they were defined as lines (in a plane) making equal angles with a transversal, on the same side. The twelfth axiom would still be required as the converse of I. 17, but only in connection with such propositions as I. 44, to justfy a construction." We would be interested to see Professor Lodge's attempt at proving I. 32 without what he calls the twelfth axiom (the parallel postulate).

As Study has said, "Among conditions to a more profound understanding of even very elementary parts of the Euclidean geometry, the knowledge of the non-Euclidean geometry cannot be dispensed with."

25 *The Ideal*—In rigorously founding a science, we should set up a system of assumptions containing an exact and complete description of the relations between the elementary concepts of this science. These axioms are at the same time the definitions of those elementary concepts.

No statement within the science is admitted as exact unless it can be derived from these assumptions by a finite number of logical deductions.

26 *Adaptation to teaching*—To what extent the perfection reached in the pure science by the masters would be bettered by modifications designed to facilitate class teaching and acquirement by immature minds, for example, besides the fundamental postulates scientifically necessary, which of the theorems should also be taken for granted, of course explicitly, this is a matter for the genius, the insight, the tact of the author of the new text-book of rational geometry.

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IV

THE RURAL SCHOOLS OF FRANCE

The seventh volume of special reports on educational subjects issued by the Education Board of England and Wales comprises two reports on rural education in France. The first and most important of these is by Mr. Cloudesley Brereton, whose name is already familiar to many in this country. His report is the outcome of a personal tour of observation thru five departments of Northwest France, comprising a population of nearly two millions; it presents a vivid picture of the life of the people, with the school showing large in the foreground. It is imperative, he says at the outset, " for an inquirer into agricultural education in the rural schools of France . . . to begin by acquiring a sufficiently complete knowledge of French primary education in order to see where the particular part fits in with the working of the whole." He strikes here the keynote of the French system. It is an organic unity, hence in reviewing this report, even at a skipping pace, one must follow the same order—from the whole to the part.

The authority in education is centered in a cabinet officer, the minister of public instruction, but he acts in advice with a professional council, representing all the interests affected. Furthermore, for every new measure he proposes, the minister must secure the sanction of the legislature, so that progress is accomplished by the constant integration of professional and political factors. To the central administration belong the general inspectors, who act as the " eyes and ears and mouthpiece " of the minister as they pass annually over their respective districts. " Anyone," says Mr. Brereton, " who attempts to estimate the influence of the rural schools in France must take into account the steady pressure that the central authority exerts. It is like a 'power station' which, tho often unseen and at a distance, furnishes no inconsiderable quota to the sum-total of the schools' energy and efficiency."

The centralized power is re-enforced by the peculiar organization of the system. It consists of seventeen academies or scholastic subdivisions, each comprising a university, and classical colleges, and its quota of primary schools. At the head of each academy is a rector, an official of great dignity, appointed by the President of the Republic. He is assisted by a council of university professors, of whom four are his own nominees. The control of the rector extends nominally to all three grades of education, but the university and secondary schools absorb his energies so that the direction of primary education falls upon the academy inspector, "who strikes one as being the pivot between the central power and the schools." Apart from his functions the importance of the academic relation to the primary school consists chiefly in the ideal which it fosters, the sense of a vital relation between the different grades of education that custom and tradition have too widely divorced.

The true unit of primary-school administration in France is the department, a civil district which, for educational purposes, is treated as a subdivision of an academy. In France proper (Algiers excluded) there are 87 departments, which are unequally distributed among the 16 academies; Chambery comprises 2 departments, Paris, the largest academy, 9. The departments also vary in extent and in population; the smallest has 88,000 inhabitants, the largest, Seine, 3 1-2 millions; but large or small, their adoption as units of administration has saved France from the ills, and waste of "district" or "parish" pettiness.

This naturally strikes an English observer, in view of the recent efforts to clear up the educational muddle of his own country by making the county the administrative unit. We also have gone far toward eliminating the small school district, tho few of our States have achieved a uniform, equalizing school administration such as obtains in every French department.

We cannot here follow our author thru the details of the departmental organization, but those who wish to understand the leveling-up process which has brought even "out-of-the-way French schools" to a high average standard should study this combination of professional and civil authorities (the former always in the majority), the careful adjustment of their functions, the checks and counter-checks, all working smoothly, as Mr. Brereton attests, because "the province of each particular functionary is so clearly thought out and defined that there is no debatable ground over which ambitious rival authorities can wrangle."

It must suffice to note here that the local authority in respect to all school matters, business or scholastic, resides, (1) in the prefect or civil head of the department, (2) in the educational council (4 of whose 14 members belong to the civil council of the department, 2 are primary inspectors, and the remainder teachers elected by their colleagues), (3) in the academy inspector. If the influence of the latter is supreme, it is nevertheless true that he works chiefly by persuasion and prestige.

Besides his routine duties the academy inspector has to look sharply after the application of the great principles of the school law. This is an easier task than it was twenty years ago, when the priest and a large body of the peasants and gentry were hot against the free, secular school, "the school of perdition," as one parish council dubbed it; when parents, under the threats of the clergy, often removed their children *en masse* and lay teachers were "boycotted" and even "stoned." But tho this has changed so that even in the most Catholic departments Mr. Brereton was assured that "any attack on the primary school would be *mal vu* by the population in general"—still the price of safety is vigilance.

Obviously it is impossible that the academy inspector should come into close contact with individual schools; this is the duty of primary inspectors, assigned to each department in the proportion of one to a hundred and fifty schools, a body of experts selected by a rigid examination from the *élite* of the teachers, and subordinate only to the academy inspector. Besides inspecting schools, these officials hold teachers' meetings, conduct the examinations of pupils for the *certificat d'études,* and are not only the living bond between the humble teacher and his august superiors, but a living sign of the possibility of his own ascent to higher things.

The suppression of the small area in the administrative work does not destroy local responsibility, because the law obliges every commune to establish its quota of public schools, no matter how many clerical schools dispute the field, and levies a school tax on all communes for the current school expenditures. The money is collected and disbursed by the state, so that the large communes (or cities) help to equalize the school finances of the smaller. Thus the state pays a minimum salary to all teachers, ranging for full teachers from two hundred dollars to four hundred dollars annually, which is, at least, a living wage.

There is, moreover, a wide margin of optional expenditures which rest upon the communes and appeal to their local pride. The mayors—for even a commune of fourteen inhabitants has its mayor—and local school committees are charged with a round of school duties which give *éclat,* tho they carry no real authority. This combination of unified control with diffused responsibility is exactly what our States are working to, tho by a process the reverse of the French.

Mr. Brereton made his tour of the five departments chiefly on bicycle, hobnobbing with primary inspectors, who travel often in the same way, interviewing academy inspectors, normal and primary-school teachers, peasants, parents and boys, and inhabitants in general. His inquiries were very direct and comprehensive, the conversations were jotted down on the spot, and form not only a lively transcript of the schools and their *milieu,* but a summary of opinions slowly evolved thru daily experience.

Passing over the inquiries as to administration, which is a burning question for England at this moment, and as to teachers, of whom there are, as elsewhere, better and worse, but from the nature of the tests none incompetent, we come at once to the working of the schools themselves, which is the *crux* of a system.

The first particular that confronts us relates to school attendance, which neither the law nor the school machinery has brought to a satisfactory average. In the departments under review the average is higher than for the country as a whole, ranging daily from 70 to 92 per cent. of the enrollment. The manner of keeping the registers really exaggerates the ratio, as the names of pupils who desert the schools in the summer are promptly dropped from the rolls. These children generally quit school to become *patours,* such being the picturesque local term, derived directly from the Latin, for the youthful keepers of sheep. In some districts the school population falls to a third during the season. Minor causes of the exodus are grape-gathering, *haysel,* and apple-picking. To these industrial disturbances is added "the irregular attendance during the week of First Communion and sometimes during the month preceding."

Various remedies have been proposed for the evil. The first which suggests itself is naturally a stricter enforcement of the legal penalties in respect to parents, with the attendant legal processes. This, however, where tried generally, works out badly as the peasants are "ultra-conservative, and local usages and prejudices very strong." The drift of opinion is toward persuasive influences, such as rewards for attendance, and even assistance for families which depend upon the earnings of children.

The problem of school attendance is bound up in a measure with the *certificat d'études,* which can be taken at eleven years of age. The latter, according to the report, has become "in rural districts for pupils, whether they succeed or fail, a signal for departure *en masse.* The category of pupils from eleven to thirteen is thus reduced to an extremely weak contingent, or even to vanishing point. As a mean, a quarter and sometimes a third of the total effective disappears, either to be made use of at home or to be let out to look after cattle."

It is evident that indifference to education has quite as much to do with this exodus as poverty. A school official, cited in the report illustrates the case as follows: "A candidate for the certificate writes, 'In winter one has nothing to do, so one goes to school.' This child did not suspect he was translating the thoughts of all his comrades in the country, and even of their families. When we happen to meet at the side of the road under a hedge of eglantine three children in charge of a goat, we ask ourselves very seriously if there are not at least two too many. It is these two children we must get into the school by using all possible expedients."

As the certificate exempts from school attendance, the obvious remedy is to raise the age for candidates at least to twelve years. Some of the higher officials are in favor of reducing the obligatory age for full school attendance from thirteen to twelve, with a system of compulsory half-time attendance up to fifteen, an "unconscious imitation," with improvements, of the Robson Act for England.

The studies required in all primary schools of France, city and rural, are about the same as in our own country, with special stress on *la morale* and wider diffusion of elementary science. We are surprised to learn that drawing is neglected in the rural primary schools, and that manual training is practically a dead letter. "I encountered one teacher," says Mr. Brereton, "at St. Aventin (Indre-et-Loire) who had a small bench for practical work, at which he makes models of barrels and such things as are required by vine-growers or agriculturists. The children watch him while at work and try to copy what he makes at home. Above all, he teaches them how to mend tools and implements, a very useful thing for the French peasant, who, being of an economical turn, always tries to do his repairs himself. . . But, as a rule, I found the *travaux manuels* is one of those subjects that has not caught on in the country." Crowded programs and poverty of the communes are the general excuses. One teacher explained that "A little learning is a dangerous thing, and a little manual training, unless on the right lines, only gets the pupils into bad habits, which, a wood-cutter friend of his told him, only makes them worse apprentices than children who know nothing."

Gymnastics and military drill, which figure in the programs, were also generally wanting. The number of school gymnasiums in France is actually declining, owing, no doubt, to the extraordinary law which renders teachers liable for all accidents on the spot. In domestic economy, also prominent in the programs, and which from the rural point of view is the most important branch for girls, little is done beyond book lessons, "Nowhere," says Mr. Brereton, "did I come across anything like practical work, either in laundry or cooking.

"It is true that the standard of cooking in France is relatively high, and, as far as my experience goes, it is certainly above the average among the peasants. I have taken 'pot-luck' at the simplest of wayside inns, and even eaten at the board of some of the small cultivators. This appears, after all, only in keeping with their well-known thrift and economy, which causes them to make use of everything. In fact, it did seem to me that the actual need of teaching cookery in country districts, where there exists no artisan population, is as yet not proven."

In neglect of the branches enumerated the record of the French rural school is so like our own as to suggest the operation of common causes. Whatever be their nature, it is only populous communities that so far have been able to develop a vigorous growth of extra branches on the root of the universal elements.

It is quite otherwise with *la morale,* which seems to chime in with the habitual tone of country life. "I was present," says Mr. Brereton, "at a certain number of *morale* lessons, and was agreeably surprised by the interest the children took in them. . . The clever teacher does not seek to ply his pupils with any cut-and-dry systems of lay theology, but rather treats all these particular lessons as the informal *résumé* and logical exposition of what he is trying to teach at all hours of the day, in creating a moral atmosphere in his class, and making it a school for the will."

One outcome of the instruction is pointedly illustrated as follows: "I was talking," says our author, "to a small boy at Trun, whom the master of the school kindly told off to show me to an hotel. In the course of our conversation, I discovered that, altho only fourteen, he was a keen sportsman. So, when he spoke of the numerous birds in his father's garden, I remarked to him: 'I suppose you are always potting at them?' 'Oh, no,' he said, 'I never shoot the useful birds. They do no end of good.' And when I asked if his ideas were shared by the other boys, he said that most of the boys in his school thought as he did."

The only general criticism of this instruction is that too much emphasis is laid on the individualistic virtues, to the detriment of the social duties, which are of chief importance. This view was expressed also by the Congress of 1900 which advised that "the new programs direct all instruction toward a social education."

The succession of decrees and the constant remodeling of programs that make up the official history of agricultural instruction in France indicate the difficulty of bringing it to practical results. The celebrated scheme issued by the ministry in 1897 reduced the whole code of the subject to one golden rule, viz., "that the method to be followed should be that of notions of science applied to agriculture and rendered above all things practical." A *résumé* of the scheme and several specimen programs that it has inspired are given in the report before us. It is also made quite clear that the teachers come into the schools with a good working knowledge of the subject, partly because they are recruited in great measure from the peasant class, and partly because of the training in the normal schools.

In general, even with men teachers, the agricultural instruction is apt to be "bookish," altho "the best teachers not only seem to be trying to make their teaching practical, but also to attach it to the local agriculture, of whatever nature it may be, insisting in the grass countries rather on questions of cattle and cattle-feeding; in the arable districts on cereals; in the vine regions on the treatment of the vine. At the same time they encourage the children to form botanical collections; help them to discriminate between the birds and insects useful to agriculture, and its enemies; take them for interesting excursions, and make them record their impressions, and kindle in them thereby not only an interest in, but a love of, the country-side."

As we have said, the majority of the country children quit school before they reach eleven years of age. How to prolong the period of their instruction is the most serious problem. To comprehend its importance and the efforts that it has recently excited, reference must be made to the economic and social conditions whose analysis forms the most interesting chapter in the report before us.

The five departments visited by Mr. Brereton are essentially rural. Each contains at most a single town, a market town, as it were, of fair dimensions, and scattered up and down the valleys a certain number of small factories, not numerous enough to give the country an industrial aspect. It is only the industries grouped around a center like Lisieux or Flers, both famous for linens and cotton, that are flourishing. Here the workmen earn 3 francs 25 to 3 francs 50 a day; the women, 1 franc 50 to 2 francs, and as they live generally in villages outside the towns, they spend their spare time "in gardening and a little agriculture." Under the pressure of foreign competition the small isolated industries seem doomed to decay, and the prospects of village industries, as hand-loom weaving and even lace-making, like the celebrated point d'Alençon, are darker still. "There are no technical funds available in France for attempting to improve the arts and crafts in rural districts. The *travaux manuels* in the schools are practically of little importance; it is only in the higher primary schools that good work is being done, and here again the pupils are prepared for the big workshop, and not for rural employment."

With agriculture the case is less hopeless, altho the peasants often declare that "it is a shadow of its former self." In every department visited it appears that the value of the land has fallen heavily since 1876. The rental of a small estate of 35 hectares near Lisieux has fallen from 3500 to 2000 francs. Out of this 400 francs are spent on repairs and 800 to satisfy the tax collector. The case is not peculiar.

In respect to the division of the lands the region offers a striking contrast to England. It is the country of small holdings. In Orne, for example, the majority of the farms comprise from 25 to 37 acres. In Sarthe, the number of proprietors runs into tens of thousands. "When any big estate comes on the market it is bought up by a speculator or syndicate and cut up into small lots that are at once snapped up by the peasants."

The extent and variety of products cultivated is noticeable. Alternation of crops is general; "on the grass lands which are not mown and sold for hay, the farmers go in for dairying, cattle-breeding, grazing, and horse-breeding. In many of these pastoral districts, especially in Calvados and Orne, the meadows are covered with apple trees. This allows the peasant to have two strings to his bow. In a wet year there is plenty of grass and probably a 'shy' apple crop; in a dry year the herbage is poor, but the apple trees are literally bowed under with blossoms." Calvados, rich in corn and other crops, is noted also for its high-class cheeses and its large trade in fowls and eggs. No less than 20,000,000 francs worth of the latter pass every year thru the port of Honfleur on their way to England. In the forest tracts, which are of considerable extent, woodmen and *sabotiers* ply their crafts. The number of possibilities may even be detrimental, as in the valleys of Calvados, where the farmers cannot make up their minds "to definitely take up the breeding of cattle or dairy work," and hence "fall between two stools."

There is also an ultra-individualism which blinds the small proprietor to the benefits of co-operation. "For lack of co-operation," says Mr. Brereton, "the cultivation of colza has been ruined in Calvados"; crushed out "by the competition of American cotton oils." "For lack of co-operation some of the most famous butters in Normandy have lost the position they once held in the market, owing to the difficulty to the public of being sure of securing a butter of a certain quality. On the other hand, in Indre-et-Loire there exist co-operative societies for making and selling butter, with the result that the Touraine butter has already won for itself a name in the market. These people are only copying what has already been done in Finland, Denmark, and Holland, and what has just been started in Ireland."

But the most serious aspect of the rural problem is "the growing deficiency in labor," which, as in England, "is becoming every day more intense."

One cause of this deficiency is the exodus into towns under the hope of better wages and a less monotonous life. "Half the conscripts," says a French official, "never come back to cultivate the soil." The taste of artificial excitement has rendered rural life unendurable. Undoubtedly, however, the chief cause of the lack of labor is the actual decline in population, which is most marked in the country districts. The effects of conscription, the love of comfort, "the automatic partition of property," all conduce to this decline, but the chief factor, as now generally admitted, is the spread of alcoholism. Fifty years ago France was one of the most temperate countries in the world; to-day, according to a French statistician quoted in the report, it leads all Europe in the consumption of alcohol under its various forms. The causes assigned for this alarming change are the ravages of the vine-phylloxera, and the consequent influx of noxious spirits, the increase in private distilling, and the sale of spirits at the regimental canteens. Under these influences there has grown up a habit of perpetual "nipping," which is sapping the vital force of men, and even of women.

The analysis of the rural problem here barely outlined shows very clearly the points at which education may be hopefully applied. Summarizing in the order of their discussion, the author suggests that for the revival of small industries, "something must be done in the shape of practical work in the schools or in evening continuation classes." In agricultural neighborhoods, where the majority of peasants are also proprietors, "instruction in scientific notions applied to agriculture is demanded." "The spirit of saving, so widespread among the people, should be transferred from an individualistic to a social basis, by substituting everywhere the mutual insurance societies among the scholars, and these societies, together with the associations of former pupils, should further develop the spirit of co-operation." Recreative evening lectures, which never fail to draw when the magic lantern is an accompaniment, will do much to relieve the long winter evenings in the country from dullness, while to combat alcoholism there is the teaching in the day school and adult classes, enforced by the work of temperance societies. All the agencies named, as the report shows, have been set in motion by the government, but in spite of the admirable organization of the system, and the ardor with which teachers and officials have entered into the effort, it is difficult to sustain these auxiliary works outside the towns. It is, after all, by the steady pressure of systematic education that society must be transformed, and on the educational side the most hopeful outlook for rural France is the recognition of this truth. Hence the new impetus given to the higher primary schools, the efforts to retain pupils by specializing the instruction, the founding of practical schools of agriculture and of farm schools, both closely co-ordinated to the primary schools and answering somewhat to our own land-grant colleges, tho of much narrower scope. Above all should be noted the growing conviction that the gap between primary and secondary education, so called, must be closed up, and the sense of a common national purpose infused into both. This lesson in particular the English investigator commends to his own country. "We shall probably have to copy the French," he says, "in creating schools in waste places, which, as they will cater for a still higher class than those who refuse to enter the French higher primary schools, will have, of necessity, to be christened secondary. We must further recognize, as they, that country secondary education ends at sixteen or at the latest seventeen, and largely modernize the curricula of most of our country grammar schools."

By embracing in one view the threefold aspects of the rural problem—the economic, social, and educational—the report emphasizes the limits of the school while disclosing its highest service as a transforming agent. The rural school is not a panacea for the "ills of the country-side." It has a mission in common with the city school. "Apart from its local obligations," says our author, "stand its higher duties toward the nation and toward humanity. It strives, as much as it can, within the brief season of the school life, to give the child in a shortened and intelligible manner the experience of the race, because he will one day be a man, and the experience of the nation, because he will one day be a citizen. . . Because time presses and we wish to give the child not merely hearsay knowledge, or charge his memory with a mass of loose and uncorrelated facts, next to forming his character and awakening his intelligence we aim, above all, at equipping him with the tools of learning—reading and writing and ciphering." The successful achievement of this purpose, even in obscure rural districts, is the abiding outcome of the French primary system. Should its admirable organization be effectively used for promoting special agricultural training it would still remain true, as impressively stated by this keen observer in the application of the lesson of this system to the needs of his own country, that "if the pupils on leaving the school do not find a fair field at home for the aptitudes and aspirations" thus developed, the best of them will depart and the bias given by the school "will be simply thrown away."

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V

THE DANGERS AND USES OF THE LECTURE

As a means of imparting information the academic lecture has the approval of centuries, and occupies an important and conspicuous place in modern university teaching. There is a widespread feeling, however, shared alike by teacher and student, that lectures are on the whole irksome and unprofitable. The teacher seeks to interest and to stimulate his class, but finds himself, instead, dictating facts to a hundred note-books. The student looks for guidance; what he too often receives is bare information. Admittedly the attitude of a class should be responsive, not passive; yet a lecturer must often ignore the necessity of preparing the mental soil before him, and cast the seed lavishly upon a barren, because undisturbed, surface. Hence the view has arisen that the lecturer exceeds his province in attempting mainly to impart subject-matter, and should occupy himself chiefly with direction and synopsis, with stimulating and sympathetic leadership, leaving the student to apply the incentive in reading, recitation, and laboratory practice. In emphasizing this view—that the lecture should be primarily a directive, not an informative, agency—I wish to show from the student's standpoint how present conditions indicate the necessity of a change both in the motive and in the plan of lecture instruction.

Many persons are accustomed to look indulgently upon the informative lecture—to regard it as a pleasant and effective means of obtaining knowledge. They themselves prefer to learn by ear rather than by eye. An analysis of this attitude would, I feel confident, show in most cases that those who maintain it have overestimated the amount and value of knowledge gained from lectures as such, and have allowed the stimulus and suggestiveness of attractive lecturing to impart an unreal feeling of acquisition. Acquisition may indeed take place in the subsequent reading of books or, more likely, of notes. In such cases the knowledge is due to the books and to the notes; the lecture, valuable for what it has actually imparted, namely incentive, is rendered of less value by having as its object something which it can seldom effectually impart, namely information. Thus any lecture, no matter how delightful, which aims primarily to inform, is by virtue of its very purpose hampered in the function to which it owes its value.

It is often asked, "How can one man deal with a class of several hundred students except by means of the lecture?"

"On the other hand," comes the reply, "how it is possible to reach effectively by lecture any class of such overwhelming size?"

The dilemma certainly is perplexing. One thing, however, is certain; it would be as well for instructors to furnish a text-book and to require mere examination on its contents, as to continue with the present wholesale method. It is little profit to a student, sitting in the extreme rear of an auditorium, to note down the detached and elusive shreds which may reach him from the lecture platform. It is little profit to a lecturer, while straining to be heard as the student is straining to hear, to attempt to influence numbers hopelessly beyond his personal grasp. If the necessity for demonstration be involved, the trouble is indefinitely aggravated. The distant, half-seen experiment; the distant, unseen operation; the patient examined in the distance by proxy; the perfunctory inspection and handing on of belated specimens and preparations which serve only to irritate the absorbed note-taker: under these burdens the instruction of large classes by lecture reaches its acme of inefficiency. To be sure, to state a dilemma is no argument. But does not the lecture system, by its very inclusiveness, encourage radically wrong, and with other methods impossible, conditions? With other methods a line must needs be drawn as classes increase in size; with the lecture the only limitation is floor space. Our colleges and professional schools are learning that bulk beyond a certain limit means weakness. Their duty is first to retain classes in some way within educative bounds—then to apply methods which educate.

A great deal of lecturing not only fails to elicit response, but invites conditions which are a menace to intellectual health and ideals. Given the average lecture course, it is safe to say that a few directions, faithfully carried out, will " pass with credit " any student of moderate intelligence. The recipe is well known to a certain class of tutors, and it is the possibility of thus turning the passing of examinations into an art, which makes the lecture course the favorite among students who wish to attain maximum grades at a minimum expenditure of labor. The reason for this preference is that a well-established method of cramming may be applied successfully to the matter of most lecture courses, and that " marks," far from being the result of continued faithful study, may depend solely upon the extent to which a student is willing to work at high pressure for a few days preceding the examination.

The evil of this sort of cramming needs no exposition. It may not be realized, however, that a similar evil extends to every student to whom lecture notes are the chief means of preparation for examinations. The use which is made of notes after they are once obtained is of exceeding importance to the student. The tyro at note-taking has first to encounter the discouraging fact that notes in college are not, as in the outside world, a word here or a sentence there, entered in a little book for the purpose of jogging the memory, but summaries of solid blocks of lecture matter. He has next the task of learning the use of this formidable mass. If he be wise he will work hard during the lectures, produce day by day a well-arranged text-book, and study it faithfully as the course progresses. It may be a dispiriting task, but it will make the final cram, which in any case is hardly to be avoided, much less of a burden. But some lecturers present especial difficulties to the note-taker. To follow the words of any speaker at all comprehensively in full script is an art, while the recording of some kinds of lecture discourse results in a scrawl legible only to the note-taker himself. Close and important detail is given with voluble ease, and the slaves of the note-book toil like slaves of the galley. It is, truly, largely a physical exercise; and evidence thereof lies in the aching hand and arm. It is *not* an intellectual exercise; for the student has become a note-taking machine, and at the end of the lecture is about as conscious of mental stimulus as is a short-hand reporter of spiritual elevation at the end of a sermon.

Now the student, realizing the presence in his note-book of a full record, often takes no further thought; he watches the growing manuscript with a light heart, in the knowledge that all may be safely left to a future burst of industry—the examination cram. The better method, however, is a daily renewal of acquaintance with the notes. This may be effected either by diligent reading or by more diligent rewriting; the latter proves almost a necessity if serviceable notes are to be obtained from an almost illegible scrawl. This transcription of notes may require one or two hours of evening work for each lecture. It is a high price to pay, but the result is a neat text-book in the note-taker's own language and hand—far better for his own purposes, if the original notes were well taken, than anything which he could buy. Instructors have been known to recommend this rewriting of notes. They cannot have appreciated the galling sense of time and labor wasted which the practice brings to the student. He feels that work as strenuous could by other methods of learning result in far more mental possession and far less bodily fatigue.

Whether the notes have lain unused, or have been studied or rewritten, the time comes when they or their substitutes must serve in the final campaign. Let us consider the student who desires above all to stand high in his course. He may feel that he already has an intelligent grasp of the subject: but that is not enough; he must get a "high mark," and upon it may depend the scholarship that keeps him in college. The one thing for him to do is to take his notes and go over them again and again, until each page, each paragraph becomes stamped in every detail upon his memory. Each diagram made by the lecturer upon the blackboard, each figure copied from the charts, must be re-drawn until memorized. The student must himself become a compendium of the subject. He may now be fairly sure of passing with distinguished success—but success earned by a method depressing and humiliating to a man of intellectual spirit. To this necessity the scholarship student owes a true cup of bitterness. It is an excellent system for attaining academic honors, but a wretched system for attaining what honors signify.

Another means of distinction in the art of passing is furnished by the publication of examination papers. Such success is due to the practical identity of examinations given in an annually repeated lecture course. It is strange that instructors fail to realize how far a little ingenuity may go in replacing genuine study. Courses actually exist with accessible examination papers extending back over years—papers of such a nature that an intellectual student can extract from them sufficient intimation of what will be asked to enable him to pass his examination with very little work. The method is a short cut to what the instructor " requires." This resuscitation of past examinations is a time-honored custom among students in lecture courses, and must continue until lecturers appeal to the mind, not to the note-book, and direct their examination at the man and at his thinking, rather than at his memorizing faculty.

A system which thus encourages the art of passing must create for the student the delusion of a royal road. Moreover, the austerity of the informative lecture is not the austerity which develops effort, but is rather indulgence cloaked with severity; and the result is a form of parasitism. Lectures covering a subject in detail are the outcome of extended study and compilation on the part of the instructor; he gathers, systematizes, and places at the disposal of his students what he thinks they need to know. It is food elaborated by professorial industry, found all-sufficient by the student, and taken exclusively as a matter of economy. The student parasite adapts himself readily to this predigested diet: organs of independent acquisition disappear, being useless, while organs for appropriating the elaborated food develop prodigiously; and the process is consummated in the complete acquirement of the art of passing. No matter how much hard, self-denying work is done upon material obtained wholly from lectures, the weakness remains. The student comes to regard the lecture as the source of all knowledge; and the apparent all-sufficiency of lecture information, emphasized by examination, deters him from independent effort. By avoiding certain subjects a student may complete a college career almost without once entering the library. He has never learned even the meaning of original sources, and is consequently devoid of the power which their use alone can impart. As lecture parasite he thrives as long as lectures thrive, and at the end has earned his merited reward—a surfeit of information; but the faculty whereby alone information is of any worth is rudimentary or wanting. Students taught chiefly by lecture become effectively trained in but one subject—the passing of examinations. As Huxley said, "They work to pass, not to know; and outraged Science takes her revenge. They do pass, and they don't know."

I have endeavored to show how the lecture, employed as a means of information, may prove both an obstacle to effective instruction and an incentive to the wrong kind of learning. The question now arises, How may the lecture, regarded as a directive rather than as an informative method, attain its greatest usefulness?

A further study of the student's attitude toward the lecture will, I believe, furnish in part the answer.

Professor and student do not often exchange opinions on education. The professor grumbles to the faculty, the student to his classmates; each fails to profit by the other's experience. It must not be supposed, however, that the student's protest is wholly passive. He may, indeed, feel himself unqualified for open criticism, and decide that educational matters, at best a weariness to the flesh, are as good as they can be made. But reaction is inevitable. Instinctively he tends to supply for himself certain deficiencies in lecture instruction.

One example of this tendency is seen in the use of "printed notes." These consist in detailed records of the subject-matter of lectures (usually typewritten, but sometimes printed), produced by students who are good note-takers, and sold to those of the class who will buy. Printed notes may suffer official anathema and even legal injunction; they may be, as often reputed, demoralizing: nevertheless they *are used*, not only by the dead-wood of a class, but in many cases by students who are trying to learn. They are an almost universal accompaniment of the lecture system in American colleges and professional schools, and often furnish a considerable income to the students who compile them.

The conditions which give rise to a demand for printed notes vary with different types of lecture. In some courses, text-books covering a subject either do not exist or else are condemned by the instructor, and authorized subject-matter is thus inaccessible to the student except in the lectures. Forced to depend upon notes of some sort, the student is tempted to fall back upon those which seem the most nearly complete; while absences may render the purchase of notes peremptory. In courses which present a subject in which exhaustive text-books abound, the student faces a somewhat different situation. Here an economic instinct tells him that the time spent in hearing his professor's version of an easily available subject might be better employed in study. But the lecturer's disagreements with the text-book (of minor importance, yet of distinct examination value) weigh upon the student, who seeks in printed notes a safeguard which shall balance all discrepancies. Some lectures of this type are recognized as entirely unnecessary, and hence are quite devoid of notes and note-taking. Attendance becomes a matter more of habit than of duty, and the student absents himself with perfect safety.

There is one kind of lecture course in which the use of printed notes is particularly natural and excusable. The danger involved is one which besets every professor who has a well-systematized subject to treat by lecture. On first compiling his material he writes a set of lecturer's notes, intended doubtless as a temporary makeshift, to be constantly remodeled with the progress of his subject and his change of attitude toward it. For the first few years, perhaps, the notes are molded in accordance with his growing experience: new data are inserted, old methods discarded; and the course, strengthened every year by the lecturer's fresh energy, wins the confidence and rouses the enthusiasm of the students. But years pass; other duties and responsibilities demand the professor's best thought, and little by little the course weakens. The lecturer's notes have been proved by experience and are well learned. The data are essentially permanent, and must be repeated annually in order that the subject be well covered. In spite of vigilance the wheels will slip into the ruts of the year before, and year before; until at last the cart rolls on serenely in its own tracks, the occupant scarcely realizing why it all seems so natural, easy, and familiar. The reason is plain. The professor has dropped the reins and Habit has taken them up. Habit now conducts the course and sets the examinations, while the sometime lecturer immerses himself in his studies and executive duties. Students are not slow to discover a transfer such as this, or to seize the opportunity that it offers. The labor of note-taking is unnecessary, for the dictated subject in the form of printed notes fulfills a logical, economic demand. The students have completed what the professor began—the manufacture of a text-book. Some, with the printed edition before them, are amused when the old, old joke appears in its appointed place; others find it hard to suppress a feeling of indignation. The sets of printed notes are handed down from class to class, and are safe material for examination purposes; while a student, if so minded, may read and digest the contents of any lecture the day before its delivery, and may even pass the examination with high credit without once seeing the professor.

It is clear, I think, that in demanding printed notes the student is seeking some accurate form of the subject-matter presented in a lecture course; he wants something to take home with him and "grind" at his leisure. His own notes serve him to a certain extent. They comprise a more or less orderly system of information covering a certain field of knowledge; in other words, a text-book—a text-book poor enough, but of peculiar value to the student inasmuch as the familiarity of his own writing and mode of expression simplifies the task of learning. His own notes, however, are often far from accurate, far from complete; and on the approach of the examination he may feel an honest distrust of the harvest within his note covers. The most promising substitute is a series of printed notes. He buys or borrows a set, and, trusting in the ability of the compiler, applies himself to the comparatively easy undertaking of absorbing the course in its new form.

The tendency of the lecture to stimulate the production of unauthorized or even illegitimate text-books in the form of printed notes is, I believe, the result of an attempt on the part of the lecturer to furnish subject-matter in the place of instruction. To render subject-matter available is not instruction. No one can maintain that the student who has heard a purely informative lecture goes from it instructed in the data therein set forth. The data have been merely placed at his disposal; the first step only has been taken toward learning: the material is in his notes, not in his head, and the lecture itself takes little part in the process of acquisition. But the lecture is seldom purely a matter of data; there must usually be a residuum, be it of good or evil, of what the lecturer himself imparts to his subject. And this is what the student carries away; this is the instruction. The lecturer should not be burdened with the infinite and wearing detail involved in the complete presentation of a subject. The time has passed when the professor was sole mediator between the student and the archives of learning, and books have long ceased to be inaccessible treasures. What, then, may hinder a lecturer from shifting the burden of subject-detail from his own shoulders to an impersonal receptacle—the text-book? There is, it is true, a text-book danger; but a greater danger lies in the tendency of the lecturer to merge himself in the impersonality of his lecture material, and to degenerate into an automatic text-book. To avoid this, let the instructor see to it that the mass of his subject be made available to the student, not by dictation and thence by means of faulty or inadequate transcriptions, but in the form of reliable, well-written books. The lack of such books must not provide an excuse for the annual repetition of the same lectures. In such a case the instructor's duty lies in one path: he must furnish his own text-book as an earnest that he conscientiously believes the light vouchsafed him is clearer than that granted to any other. If means are wanting, then let him place at the disposal of his students an amplified and carefully revised edition of his own lecture notes, which shall be neither a snare to the student nor a discredit to himself. The lectures may now be used, to mold as it were, the dead subject-matter into a living shape; to give it not only unity, but personality. The student will first possess the subject-matter in a form profitable for study—then will receive from the lecturer the scholarly incentive.

Another supplemental resource of the student is the "compend"—a form of literature often found on the shelves of dealers in text-books, and especially medical text-books. It consists of an epitome, frequently in catechetic form, setting forth the "essentials" of a subject. Some of these books are by trustworthy compilers, and are published by reputable firms; they are concise and useful outlines of systematic subjects. Instructors, however, sometimes frown upon the compend, regarding it as a temptation to the student to neglect more profitable sources. I think that an inquiry into the motives that underlie the use of such aids would show in most cases that in the persistent use of the compend the student is seeking to supply the lack of synthesis and correlation in the instruction afforded him.

The office which the compend thus assumes is in reality an important function of the lecture—one which too often is completely obscured by unnecessary presentation of subject-matter. Engaged in constant acquisition of details, the student is in danger of losing sight of the form, significance, and relations of a subject in the analysis necessary for this acquisition. It is therefore the duty of the lecturer, while urging accuracy in detail, to draw the student's eye, for the time being, away from detail and to direct it upon mass. He may accomplish this: first, by reviewing the subject in outline, placing a printed syllabus in the hands of every student; secondly, by emphasizing relations—the interrelation of parts and the relations of the subject to allied subjects; thirdly, by "explaining type as illustration of the general principle," showing thereby how the individual may represent and simplify the aggregate, in the sense that a man may epitomize his epoch or an animal its group; and, finally, by giving a concise but comprehensive summary at the end of the course, which may furnish an enduring cement for details not firmly incorporated. Let the instructor make good use of this synoptic function of the lecture, causing his students day by day to see and to understand as a whole the structure which they are building, and he may have the satisfaction of finding their examination papers orderly and coherent presentations of knowledge, instead of unassorted scraps from intellectual junk-shops.

The usefulness of the lecture might be extended in offering to students the preliminary advice which they so much need on entering upon long courses of study. A student seldom completes a technical or professional course without regret that he did not realize early in his training the importance of fundamental subjects neglected or approached half-heartedly at a time when their bearing upon subsequent work was not fully understood. Students could be saved such misfortune if their teachers, at the beginning of extended courses which lead up to life work, would set forth explicitly the relation of fundamental to professional subjects. Lectures with this purpose, delivered in short courses by men whose advice would have instant weight, would impart to the student a right perspective of the work of coming years, and establish for him a logical basis of action. The lecture may be made, in other words, a means of dispelling that insidious illusion that practice may develop and flourish apart from its source of nourishment, theory.

The lecture should also be left untrammeled for the introduction of new matter not yet incorporated in books; and especially for reference to sources, and for encouragement in thus seeking knowledge at first hand. Its province is not so much to impart knowledge as to inculcate methods by which knowledge may be gained—methods of observation and interpretation, and methods in the use of literature. Students care much less for the completely informed teacher than for him who says frankly, "I do not know," but who can suggest at once a good way of finding out.

Deprived of these directive uses peculiarly its own, the lecture fails to develop its greatest power—the exercise of personality. Didactic lecturing, with its constant tendency to become formal and impersonal, may cause students, in their desire for more direct influence, to take refuge in private instruction. Recourse to a tutor is generally supposed to be confined to students who are naturally or incidentally backward. This is not, however, always the case. The average student enters college from a school where the relation of teacher to pupil has been personal. The new atmosphere is widely different; the larger system appears to the freshman a maze of novelty. Into this maze he plunges, and soon finds himself resolving an apparent chaos to routine order, while various threads of contact with instructors lend confidence and lead him hopefully onward. But some courses (notably the non-contact lecture courses) offer blank walls. A subject that should from its nature be attractive and full of incentive proves merely a great machine. Some students, feeling the lack of encouragement and directive influence, seek out a tutor; and, with self-confidence renewed from a little sympathetic guidance, they overtake courses that were fast outstripping them, regain interest, take the examinations and pass them well. The tutor merely provides that which was wanting in the lecture instruction—personality—and the student demands no more.

Whether students seek help from a tutor individually, or in small classes (as in the justly denounced "reviews" of cramming establishments, and in the approved and useful "quiz-classes" of medical schools), the motive, whatever it may seem, cannot be divorced from the natural craving of every student for personality in teaching. The student should not be left to seek this outside. He needs and justly demands in his university life, not only opportunity, but influence; and his instructor, in furnishing the one, should not forget the obligation of exerting the other. Obviously, personal relations, man to man, can attain their fullest development in laboratory, recitation, and conference; but, once rid of the crippling load of subject detail, the lecture has a true function to subserve in bringing the professor into influential relation with his students. Free from the necessity of covering a subject, the lecturer may direct, advise, stimulate, and inspire.

In addressing responsive hearers he will prevent the text-book from becoming a thing apart—cold and repellent. Students will leave his presence instructed. They will carry away as a permanent acquisition what has been said *about* the subject, instead of the subject itself, piecemeal in their notes. The lecture will thus accomplish what it has so far almost vainly striven after—"the substitution of personality for print."

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VI

THE TAGALOG LANGUAGE

Tagalog is the principal dialect of the Christian and civilized Filipinos, who constitute about eighty per cent. of the inhabitants of the Philippine archipelago. Buckle[1] quotes an opinion of W. von Humboldt that it is the most perfect form of all the Malayo-Polynesian tongues. According to Deniker,[2] "it is largely superseding the other dialects, having already displaced Bicol in the north of the province of Camarine, Bisayan on Marinduque Island, etc." Perhaps it would be better to say that dialectic variety is disappearing under the influence of closer intercourse and a common national spirit, for Bisayan, Ilocoan, Tagalog, etc., are in fact a group of related dialects springing from a single Malayan stock. Middleton,[3] a Catholic priest who recently delivered a lecture on this subject before the Philobiblon Club of Philadelphia, says: "The various dialects are twenty-seven in number, all, however, akin in their common stock, Malay, of which these idioms or patois are daughters, yet with countless sharply marked differences between one another."

Philologists classify Tagalog in the Malayo-Polynesian family. Its radical elements are dissyllabic, and reduplication is a marked feature in its grammatical structure. It belongs to the agglutinating class of languages, being exceedingly rich in determinative particles which modify meaning when added to roots. In its present form it shows the influence of Spanish and Chinese contact. Its very alphabet is Latin instead of the original Arabic. Except native scholars and a few foreigners like Blumentritt and certain Spanish monks, there are none competent to discuss a language which, for weal or woe, has become a part of American thought and life.

The following statements are based on a study of a *Metodo*

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[1] *Civilization in England*, vol. i, p. 221.

[2] *Races of man*, p. 491.

[3] *Notes on bibliography of the Philippines*, p. 16.

teorico-practico para aprender el Lenguaje Tagalo, published some twelve years ago and by some attributed, incorrectly, however, to the gifted and lamented Dr. José Rizal.

1 *Phonology*—Tagalog has the three primitive vowel-sounds, *a, i, u,* which are characteristic of the European branch of the Aryan family. The other vowel sounds, *e,* and *o,* are used in printing, and chiefly in words of Spanish origin; but they are pronounced like *i,* and *u,* respectively. They were either introduced directly by the Spaniards or else developed by the same process and in response to the same needs as in Europeans tongues. There are no diphthongs nor other combinations of vowels.

There are fifteen simple and two compound consonant-sounds, viz., *b, c, d, g, h, l, m, n, p, q, r, s, t, v, y, ch,* and *ng.* Of the compound consonants, *ch* occurs only in Chinese words, but *ng* is a characteristic Tagalog sound. Dr. Rizal proposed some modifications, for example, that *k* should be used instead of *c* and *q,* and they have been largely adopted. In *Everybody's magazine,* August, 1901, a facsimile of a pass issued by Aguinaldo is printed, and it contains four words in which *k* replaces *c.* This usage will probably grow under American influence. However, *c* keeps its hard sound, being used only before *a, o,* and *u.*

The theory of euphony as a constructive force in the development of language has been largely discarded by philologists. The insertions which we call euphonic are supposed to have had an intrinsic value at some stage of the development; so that they belong rather to morphology than to phonology. Be that as it may, the Tagals very often insert consonants (*t, h,* and particularly their beloved *ng*) between vowels which come together in the formation of words.

In speaking, the natives use a semi-falsetto nasal intonation, "as if," says Rizal, "they were gently scolding one another."

2 *Morphology*—The most noticeable structural feature of the language is its wealth of radicals, which, by the addition of prefixes or suffixes or both, become capable of wide application. A radical becomes an adjective if *ma* is prefixed and an abstract noun if *ca* is prefixed and *an* suffixed. For example.

the radical *buti,* good;
mabuti lalaqi, good man;
cabutihan, goodness.

The well-known name of the Philippine Revolutionary Society, *catipunan,* is an abstract noun of this formation, and means society or union.

The suffix *an,* added to the name of a thing, signifies the container of that thing, thus,

bating, bell;
batingan, belfry.

The prefix *mag,* with the duplication of the first syllable of the name of a thing, denotes the person who deals in or does that thing, thus,

alac, wine,
magaalac, wine-dealer.

The article is inflexible, as in English. The, *ang.*

Number and gender are not grammatical. The word *mañga* is used to denote plurality, thus,

tauo, man;
ang mañga tauo, the men.

Gender is based on sex, and hence is not expressed grammatically, except that, when a word is common to both sexes, distinction is made by adding the word *lalaqi* (man or male) or the word *babay* (female or woman).

The pronouns are never suppressed. They are numerous, and explicit, and even avoid the ambiguity of English pronouns. For example, we (meaning the speaker and the person addressed), is *tayo:* but if the hearer is excluded, it is *cami.* Like the old English and modern Germans, the Tagals use the second person plural in addressing others of equal social standing, and the second person singular for inferiors or for intimate friends or relations.

The numerals are complete, the units being expressed each by a single word, the teens by the word *labin* before the corresponding unit, and the multiples by adding the word *poo,* after the unit. Ordinals are formed from the cardinals by prefixing *ica.* Thus,

ualo, eight;
labin ualo, eighteen;
ualong poo, eighty;
ica ualo, eighth.

Adjectives are generally formed by prefixing *ma* to the root, tho there are of course many primitive adjectives. Comparison is expressed by duplication either of the first syllable or of the entire radical. Thus,

mabuti, good;
mabubuti, best.

The verbs are active, passive, reflexive, and impersonal. Their various moods and tenses are expressed partly by prefixes to the root and partly by duplicating one or more syllables of the root. Thus,

The root *aral* means study;
mag-aral, to study;
nag-a-aral aco, I study;
mag-a-aral aco, I shall study.

The particle *pag* prefixed to the root changes the verb into a substantive, thus,

ang pag-aral, the studying.

From all this it will be seen that the Tagalog language has reached a considerable development. But whether the development of a language is an index of the mental capacity of a people is not clear. Chinese is a poorly developed language, but the Chinese have a literature and a culture. On the other hand, highly developed languages have been found among the American aborigines who were devoid of both literature and culture. Whitney[4] says, "On the whole the value and rank of a language are determined by what its users have made it do."

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[4] *Lectures on the science of language.*

That the Filipinos have only scant literature and that their culture (which is real) is not indigenous, must be admitted; but that they have great capabilities must also be conceded. That they are as a race superior to the Chinese should not be gainsaid by anyone who is not prepared to deny that three centuries of close contact with European civilization can have beneficial results. Their fondness for ballads, music, and drama (I speak of the uncultured natives) indicates the existence of soul which must find expression under favorable circumstances. The poverty of their genius is, to my mind, sufficiently accounted for by the fact that they have always been a subject race. "Freedom is the first lesson in self-government," said a mural tablet at the Pan-American exposition. It is also the mold of character and the nurse of genius.

Whether the attempt which is now being made "to submerge the archipelago under a wave of English education" be successful or not, the Tagalog language will probably persist. I have been told by an officer of the first American troops sent to the Phillipines, who had many opportunities of meeting Aguinaldo, that the Filipino general resented being addressed in Spanish, and said that his people had their own language, which should be recognized. This spirit will keep alive Tagalog as it has kept it alive under three hundred years of Spanish dominion.

The Manila *Renacimiento* of June 26, 1902, states that a number of enthusiastic young Filipinos have organized a *Sociedad de Escritores Tagalos,* and gives a list of Tagalog works published by them. The Serranos, father and son (the latter being still alive and up to the American occupation being principal of the normal school in Manila), have published a good Tagalog-Spanish Dictionary. It may be also mentioned that there are several newspapers published at the present time either wholly or partly in Tagalog.

Tho the printing press was set up in the Philippines as early as 1603, its products up to recent years in the Tagalog language have been chiefly church- and schoolbooks written by the monks. The following list of Tagalog works drawn from Middleton and from Retana's Bibliography of 3000 titles may interest students:

1. A Study of Tagal language and poetry, published in 1703 by an Augustinian monk, Gasper. (Reprinted, Sampaloc, 1787, and Manila, 1879.)

2. A collection of Tagal Songs, by two Franciscans, Martin and Cuadrado. (Guadaloupe, 1890.)

3. A critical Treatise on Tagalisms, compared with Latin, Greek, Hebrew, and Chinese, by a Franciscan monk, Oyenguaran. (Mexico, 1742.)

4. A Tagal Dictionary; by a Jesuit, de Noceda. (Manila, 1754. Reprinted at Valladolid, 1836, and Manila, 1860.)

5. An Essay on Tagalog Grammar; by a Recollect monk, Minguella. (Manila, 1887.)

6. A Tagal Arte (Aid to Learn); by a Franciscan, Totanes. (Sampaloc, 1745.)

The Ayer collection in the Newberry Library in this city contains (besides copies of 1, 5 and 6):

7. The Serrano Dictionary mentioned above.

8. Arte y Reglas de la lengua Tagala; by the Monk Francisco de San José. (Manila, 1832.)

9. A Method for Teaching Spanish to Tagalog Children, by Minguella. (Manila, 1866.)

10. Metodo para aprender el lenguaje Tagalog; by Julius Miles. (Barcelona, 1888.)

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VII

PROFESSIONAL SCHOOLS AND THE AMERICAN COLLEGE[1]

STANDARD OF ADMISSION TO THE PROFESSIONAL AND TECHNICAL SCHOOLS

I have pointed out that it is held to be settled policy at Columbia University that the several technical and professional schools shall rest upon a college course of liberal study as a foundation (altho not necessarily upon a course four years in length), either at once or as soon as practicable. The School of Law has already been placed upon the basis of a graduate school, to take effect July 1, 1903. On December 20, 1898, the University Council recommended that the College of Physicians and Surgeons be made a graduate school as soon as such a step is financially practicable. The Schools of Applied Science have constantly in mind a similar step, and much consideration has been given by the Faculty to the best way of bringing about the change without undue sacrifice. This policy, however, does not pass unchallenged. It has recently been criticised and opposed in a cogent and noteworthy argument by President Hadley of Yale University in his annual report for the year 1901-02, on the grounds (1) that it tends to make the professions exclusive in a bad sense, (2) that it leads to a remodeling of the college course to meet the needs of intending professional students, which remodeling is at least a doubtful experiment, and (3) that it establishes an unfortunate distinction between the universities which require a bachelor's degree as a condition of admission to the professional schools and those which make no such requirement. This policy is also criticised and opposed by many intelligent persons, trusted leaders of public opinion, not university teachers or administrators, who are impressed by the fact that the whole tendency of our modern educational system is to prolong unduly the period of preparation or studentship, with the result that an increasing number of young men are held back from active and independent participation in the practical work of life until they are nearly, or quite, thirty years of age. In the face of such objections as these it is obvious that we at Columbia must consider carefully the probable social and educational effects of the policy upon which we have entered.

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[1] Reprinted, by request, from the Annual Report of the President of Columbia University, submitted October 6, 1902.

The questions raised in the discussion of this policy are to be decided, it seems to me, from the standpoint of the duty of the University to the public and to its own educational ideals. Two interests are immediately at stake: the standards of professional study in a university, and the place of the American college in the higher education of the twentieth century. I doubt whether the two interests can be separated in any adequate consideration of the subject.

President Eliot of Harvard University impressively set forth the responsibilities and the opportunities of the learned professions in his address at the Installation ceremonies on April 19 last, when he said:

> It is plain that the future prosperity and progress of modern communities are hereafter going to depend much more than ever before on the large groups of higher trained men which constitute what are called the professions. The social and industrial powers, and the moral influences which strengthen and uplift modern society are no longer in the hands of legislatures, or political parties, or public men. All these political agencies are becoming secondary and subordinate influences. They neither originate nor lead; they sometimes regulate and set bounds, and often impede. The real incentives and motive powers which impel society forward and upward spring from those bodies of well-trained, alert, and progressive men known as the professions. They give effect to the discoveries or imaginings of genius. All the large businesses and new enterprises depend for their success on the advice and co-operation of the professions.

With such an ideal as this held up before the student of law, of medicine, of divinity, of teaching, of architecture, or of applied science, what standard of excellence shall the university require of him when he enters upon his professional studies? Three answers seem to be possible: The university may require (1) the completion of a normal secondary school course of four years, and so put admission to the professional and technical schools on a plane with admission to college, or (2) the completion of the present college course of four years, or (3) the completion of a shortened college course.

When weighing the advantages and disadvantages of these several lines of action, it should be borne in mind that a uniform policy on the part of all universities in dealing with this question is not necessary and may not be desirable. We are directly concerned with the question so far as it concerns the duty and the interest of Columbia; but the universities having different social and educational needs to meet, and somewhat different ideals to labor for, may be wise in reaching a conclusion quite different from that which most commends itself to us. This consideration seems to me to meet the third of President Hadley's objections already referred to. Furthermore, the universities do not control admission to the practice of the professions, and it is not in their power, as it is certainly not their wish, to shut out from his chosen profession any competent person whatever his training or wherever it has been had. If the standards of professional study required by the universities are higher than the minimum fixed by law, no one will attend a university for professional study unless its standards appeal to him and unless he hopes to find ultimate gain by conforming to them at some expense of both time and money. On the other hand, if the universities make the minimum standards fixed by law their own,—and only by so doing can they avoid discriminating against someone,—then they seem to me to have abdicated their functions as leaders in American intellectual life. The result would quickly be seen, I am sure, in the falling off of popular favor and support. These facts appear to meet the first of President Hadley's objections. His second objection involves a discussion of the significance of the college course, a subject which I shall consider in its proper place.

Columbia University cannot be satisfied with a requirement of only secondary school graduation for admission to the professional and technical schools for several reasons.

1. Such students at 17 or 18 years of age (or, as should be the case, at 16 or 16 1-2 years) are too immature to carry on a severe course of professional study with profit.

2. When such students predominate, or form a large proportion of the total number attending any given professional school, the teaching deteriorates and the instruction tends to become either superficial or unduly long drawn out and wasteful of time.

3. Other institutions in various parts of the country afford the fullest opportunity for students who are compelled to remain satisfied with the shortest possible preparation for the practice of a profession, and Columbia would not be justified in using its funds merely to add to a provision which is already ample. Columbia offers the most generous assistance to students who are able and willing to meet its standards and who need help in order to carry on their studies, but is not willing to lower those standards at the cost of social and educational effectiveness.

4. Secondary school graduates, however well taught, are necessarily without the more advanced discipline in the study of the liberal arts and sciences and without that wider outlook on the world of nature and of man which it is the aim of the college to give. It is our hope and wish that those who hold professional or technical degrees from Columbia University will be not only soundly trained in their chosen professions, but liberally educated men as well. No stress is laid upon the college degree as a mere title, but it is held to stand, in the vast majority of cases, for greater maturity of mind and broader scholarship.

5. For Columbia University to admit students to the professional and technical schools upon the same terms as those by which admission to the College is gained, would be to throw the weight of our influence against college education in general and against Columbia College in particular. After a few years, no student who looked forward to a professional career would seek admission to Columbia College, or to any other, except those who had ample time and money to spare.

On the other hand, while I hold a secondary school education to be too low a standard for admission to professional study at Columbia University, personally I am of opinion that to insist upon graduation from the usual four-years' college course is too high a standard (measured in terms of time) to insist upon, and an unsatisfactory one as well. My view of the matter is concurred in by the Dean of Columbia College, by the Dean of the Faculty of Law, and by the Dean of Teachers College, as will be seen by reference to their annual reports, which accompany this document and are a part of it.

My objections to making graduation from a four-years' college course a prerequisite for professional study at Columbia University are mainly two:

1. I share the view, already alluded to, that the whole tendency of our present educational system is to postpone unduly the period of self-support, and I feel certain that public opinion will not long sustain a scheme of formal training which in its completeness includes a kindergarten course of two or three years, an elementary school course of eight years, a secondary school course of four years, a college course of four years, and a professional or technical school course of three or four years, followed by a period of apprenticeship on small wages or on no wages at all.

2. Four years is, in my opinion, too long a time to devote to the college course as now constituted, especially for students who are to remain in university residence as technical or professional students. President Patton of Princeton University voiced the sentiments of many of the most experienced observers of educational tendencies when he said that: "In some way that delightful period of comradeship, amusement, desultory reading, and choice of incongruous courses of what we are pleased to call study, which is characteristic of so many undergraduates, must be shortened in order that more time may be given to the strenuous life of professional equipment." For quite twenty years President Eliot has advocated this view and in arguments which have seemed to me unanswerable, under the conditions existing at Harvard, has urged that the degree of bachelor of arts be given by Harvard College after three years of residence.[2] At Columbia, and elsewhere, the practice of

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[2] After this report was in type it was announced that hereafter the degree of A. B. will be conferred by Harvard College upon students who complete the requirements for the degree in three years at once and without an additional year's delay, as heretofore. Somewhat similar announcements have also been made by the University of Pennsylvania and by Brown University.

counting a year of professional study as a substitute for the fourth or Senior year of the college course has in effect established a three-years' college course for intending professional and technical students. The degree has been withheld until a year of professional study has been completed, in deference to tradition rather than from sound educational principle. In this way new conditions have been met without the appearance of shortening the college course. While the policy hitherto pursued in this regard was justified as a beginning toward a readjustment of the relations between the college and the professional and technical schools, it is hardly to be upheld as a final solution of the problems presented. From my point of view it is open to criticism in that it (1) shortens the college course without appearing to do so, (2) divides the interest of the student in a way that is satisfactory neither to the college nor to the faculties of the professional schools, and (3) fails to give the full support to a college course of purely liberal study which is so much to be desired.

There remains a third line of action, namely, that of basing admission to the professional and technical schools of the University upon a shortened course in Columbia College or its equivalent elsewhere. This I believe to be the wisest plan for Columbia University to adopt, as well as the one whose general adoption would result in the greatest public advantage.

LENGTH OF THE COLLEGE COURSE

One consideration of vital importance appears to have been overlooked in the numerous discussions of this whole matter, and that is the fact that there is no valid reason why the college course should be of one uniform length for all classes of students. The unnecessary assumption of the contrary view has greatly complicated the entire question, both in the public and in the academic mind. It must be remembered that for the intending student of law, medicine, or applied science who goes to college, three or four additional years of university residence and study are in prospect after the bachelor's degree has been obtained. For the college student who looks forward to a business career, on the other hand, academic residence closes with graduation from college. For the latter class, therefore, the college course may well be longer than for the former. While two, or three, years of purely college life and study may be ample for the man who proposes to remain in the university as a professional or as a technical student, three, or even four, years may be desirable for him who at college graduation leaves the university, its atmosphere, its opportunities, and its influence, forever.

It must be remembered, too, that the four-years' college course is merely a matter of convention, and that there are many exceptions to the rule. The Harvard College course was at one time but three years in length, and the collegiate course at the Johns Hopkins University has been three years in length from its establishment. The normal period of residence for an undergraduate at both the English and the Scottish universities is three years. President Wayland of Brown University, who was in so many ways a true prophet of educational advance, devised a plan for a normal three-years' college course over half a century ago. The question is not so much one of the time spent upon a college course as it is one of the quality of the work done and the soundness of the mental and moral training given. The peculiar service which the college exists to perform may be done in one case in two years, in another in three, in another in four, and in still another not at all.

Since 1860 the changes in American educational conditions have been revolutionary, and as one result the content of the A. B degree has been wholly altered and that degree has been elevated, at Columbia College at least, to a point almost exactly two years in advance of that at which it then was. In other words, despite the fact that college admission requirements have been raised and much of the instruction once given in college is now given in the secondary schools, particularly the public high schools, the bachelor's degree has been held steadily at a point four years distant from college entrance, with the result that the average age of college students at graduation has greatly increased. Since 1880 the average age of the students entering Columbia College has increased exactly one year, and while no adequate statistics for 1860 are available, it appears to be true that the average age of admission in 1880 was one full year higher than in 1860. The Registrar has made a careful examination of the official records, and reports that in Columbia College we are demanding two years more of time and work for the degree of bachelor of arts than was required in 1860, and one year more of time and work than was required in 1880. President Hyde of Bowdoin College has recently said that "Nearly all the distinguished alumni of Bowdoin College graduated at about the present average age of entrance, and were well launched on their professional careers at about the age at which our students now graduate." He cited the cases of Jacob Abbott and William Pitt Fessenden, who were graduated before they were seventeen; Longfellow, who was graduated at eighteen; Franklin Pierce, John A. Andrew, Fordyce Baker, and Egbert Smyth at nineteen; and William P. Frye and Melville W. Fuller at twenty. Instances might readily be multiplied from the records of the American colleges. The recent statistics compiled by Dean Wright of the Academical Department of Yale University, which show the average age of graduation of the members of the class of 1863 at Yale to have been 22 years, 10 months, and 17 days and that of the members of the class of 1902 to have been 22 years, 10 months, and 20 days, point to what appears to be a striking exception, not yet explained, to the general rule.

So long as there were no graduate schools, and therefore no genuine universities, in the United States, and when the bachelor's degree was the highest academic distinction to be gained in residence, it was sound academic and public policy to make the requirements for the degree of bachelor of arts as high as possible. It was the only mark of scholarship that the colleges could give. As a result, the average age at graduation increased. Now, however, conditions have entirely changed. Nearly, or quite one-half of the work formerly done in college for the degree of bachelor of arts is now done in the rapidly increasing number of secondary schools, particularly public high schools, and no small part of it is required for admission to college. This does not appear if the comparison be restricted to admission requirements in Greek, Latin, and mathematics; but it is clearly evident when the present admission requirements in English, history, the modern European languages, and the natural sciences are taken into account. The standard of scholarship in this country is no longer set by the undergraduate courses in the colleges or by the time devoted to them, but by the post-graduate instruction in the universities and by the requirements demanded for the degree of doctor of philosophy.

These being the undisputed facts, it would appear to be wise, and possible, to treat the length of the college course and the requirements, both in time and in accomplishment, for the degree of bachelor of arts from the standpoint of present-day needs and the largest social service.

In my opinion it is already too late to meet the situation by shortening the college course for all students to three years, altho such action would be a decided step forward so far as the interests of intending professional and technical students are concerned. When President Eliot first proposed a three-years' course for Harvard College, the suggestion was, I think, a wise one. But in the interval conditions have changed again. If we at Columbia should be willing to go no farther than to reduce the length of the college course from four years to three, we should (1) find it impracticable both on financial and on educational grounds to require that course as prerequisite for admission to the Schools of Applied Science, and, possibly, to the School of Medicine, and (2) we should be unable to resist the pressure for further reconstruction and rearrangement that would be upon us before our work was completed and in operation. My own belief is that Columbia University will perform the greatest public service if it establishes two courses in Columbia College, one of two years and one of four years,—the former to be included in the latter,—and if it requires the satisfactory completion of the shorter course, or its equivalent elsewhere, for admission to the professional and technical schools of the University. By taking this step we should retain the College with its two years of liberal studies as an integral element in our system, shorten by two years the combined periods of secondary school, college, and professional school instruction, and yet enforce a standard of admission to our professional schools which, both in quantity and in quality, is on a plane as high as the Columbia degree of bachelor of arts of 1860, which was recognized as conforming to a very useful standard of excellence. At the same time we should retain the four-years' course with all its manifest advantages and opportunities for those who look forward to a scholarly career, and for as many of those who intend to enter upon some active business after graduation as can be induced to follow it.

Under such a plan we should have in Columbia College four different classes of students: (1) those who were taking the shorter course of two years in preparation for a technical and professional course, and who would therefore look forward to a total university residence of five or six years; (2) those who were taking the shorter course of two years, but without any thought of subsequent professional or technical study; (3) those who felt able to give the time necessary to take the longer course without any intention of technical or professional study. The second class of students would be a new and highly desirable class, and would be, for the most part, made up of earnest young men seeking a wider and more thoro scholarly training than the secondary school can offer, but unable to devote four years to that end. The third class of students would be able, by a proper selection of studies in the later years of their college course, either to enter a professional school with advanced standing or to anticipate some of the preliminary professional studies and to devote the time so gained to more intensive professional work. Undoubtedly many students who now take a four-years' undergraduate course with no professional or technical end in view would take the shorter course, and that only, but on the other hand numbers of students would come to college for a course of two years who, when obliged to choose between a four-years' course and none at all, are compelled to give up college altogether. The final result of the changes would certainly be to increase the total number of students taking a college course of one length or another.

The Dean of Columbia College is of the opinion that such a shortened course of two years as is contemplated by this suggestion could readily be made to include all of the studies now prescribed at Columbia for candidates for the degree of bachelor of arts. This shortened course would, therefore, take on something of the definiteness and purpose which in many cases the rapid developments of recent years have removed from undergraduate study; for it goes without saying that no effort would be spared to make such a two-years' course as valuable as possible, both for intellectual training and for the development of character. The student would be a gainer, not a loser, by the change.

THE DEGREES OF BACHELOR OF ARTS AND OF MASTER OF ARTS

If Columbia College should offer two courses in the liberal arts and sciences, one of two years and one of four years in length, the second including the first, the question would at once arise as to what degrees or other marks of academic recognition would be conferred upon students who had satisfactorily completed them.

Two answers appear to be possible. First, we may withhold the bachelor's degree until the completion of the longer course, and grant some new designation to those who satisfactorily complete the shorter course. This has been done at the University of Chicago, where graduates of the junior college course of two years are made Associates in Arts. Or we may degrade—as it is called—the bachelor's degree from the artificial position in which the development of the last forty years have placed it, and confer it upon the graduates of the shorter course of two years, and give the degree of master of arts for the longer course of four years. The latter alternative would be my own preference. Such a plan would bring the degree of bachelor of arts two years earlier than now and would place it substantially on a par with the bachelor's degree in France, the *Zeugniss der Reife* in Germany and the ordinary degree in course as conferred by the English and the Scottish universities. It would also be substantially on a par with the Columbia College degree of 1860.

In this connection it must be remembered that it is not the

A. B. degree of to-day which is so much extolled and so highly esteemed as the mark of a liberal education gained by hard study and severe discipline, but that of one and two generations ago. The A. B. degree of to-day is a very uncertain quantity, and time alone will show whether it means much or little.

The degree of master of arts is an entirely appropriate reward for the completion of a college course, under the new conditions proposed, four years in length. This degree has been put to many varied uses and has no generally accepted significance. In Scotland it is given in place of the degree of bachelor of arts at the close of three very short years of undergraduate study. In England it signifies that the holder is a bachelor of arts, that he has lived for a certain minimum of terms after obtaining the bachelor's degree, and that he has paid certain fees. In Germany it is usually included in the degree of doctor of philosophy. In the United States the degree is more often than not a purely honorary designation; altho in recent years the stronger universities have guarded it strictly and now grant it for a minimum period of graduate study for one year in residence. At the meeting of the Association of American Universities in February last there was a very interesting discussion on the subject of this degree, and the divergence of policy in regard to it was made plainly evident. As an intermediate degree between those of bachelor of arts and doctor of philosophy, that of master of arts has been and is very useful at Columbia. It marks the close of a period of serious resident graduate study, and is an appropriate reward for the work of those university students who have neither the inclination nor the peculiar abilities and temperament to fit themselves for successful examination for the degree of doctor of philosophy. At the same time it must be admitted that the rapid development of the elective system and the widely different standards of the scores of colleges from which our graduate students come, have almost wiped out the distinction between the Senior year in Columbia College and the first year of graduate study. To the best of my knowledge and belief, the fixing of the degree of master of arts at the close of a four-years' undergraduate course would involve no real alteration in the standard required on the part of those coming to Columbia from other institutions. For students of Columbia College it would bring the degree within reach after four years of residence instead of five.

In the case of candidates for the degree of doctor of philosophy, the completion of the longer college course, or its equivalent elsewhere, would of course be required, and also the same minimum period of post-graduate resident study as now. There would be no alteration in the time necessary or the standard now set for that degree, which, as conferred at Columbia, is recognized as conforming to the highest and best standards.

With the courses in applied science and in medicine fixed at four years, to base them upon a two-years' college course would be to elevate them to a proper university standard and to insure the best possible class of students. The Law School and the professional courses in Teachers College could easily be put upon the same basis.

Reflection and a careful study of the facts will make it apparent that these suggestions are less radical than seems to be the case on first sight. They at least offer a solution to a generally recognized problem, one which has often been pointed to, but toward the solution of which little progress has been made. I shall seek an early opportunity of bringing them before the University Council and the several Faculties for full consideration and discussion.

THE FUTURE OF THE AMERICAN COLLEGE

Should Columbia University adopt such a policy as has been outlined, and should the same or a similar policy commend itself to the governing bodies of any other American universities whose problems are similar to ours, a development already in progress thruout the country would be hastened. As the public high schools multiply and strengthen they will tend more and more to give the instruction now offered in the first year, or first two years, of the college course. In so far they will become local colleges, but without the characteristic or the attractiveness of student residence. Furthermore, the time would sooner come when colleges, excellent in ideals and rich in teaching power but without the resources necessary to carry on a four-years' course of instruction satisfactorily, will raise the requirements for admission to a proper point and then concentrate all their strength upon a thoroly sound course of two years leading to the bachelor's degree. More depends upon the strict enforcement of proper standards of admission to college than is generally believed; that is at present the weakest point in college administration. The general standard of college education in the United States would be strengthened more if the weaker colleges would fix and rigidly enforce proper entrance requirements and concentrate all their money and energies upon two years of thoro college work than if they continue to spread a college course over four years with admission secured on nominal terms or on none at all.

The policy outlined would, I think, largely increase the number of students seeking a college education, and many who might enter one of the stronger colleges for the two-years' course would remain for four years. The loss of income due to the dropping out of students after two years of residence would be more than made good very soon by the large increase in college attendance.

As the system of higher education in the United States has developed it has become apparent that we have substituted three institutions—secondary school, college, and university—for the two—secondary school and university—which exist in France and Germany. The work done in the United States by the best colleges is done in France and Germany one-half by the secondary school and one-half by the university. The training given in Europe differs in many ways from that given here, but from an administrative point of view the comparison just made is substantially correct. The college, as we have it, is peculiar to our own national system of education, and is perhaps its strongest, as it certainly is its most characteristic, feature. It breaks the sharp transition which is so noticeable in Europe between the close surveillance and prescribed order of the secondary school and the absolute freedom of the university. Its course of liberal study comes just at the time in the student's life to do him most good, to open and inform his intelligence, and to refine and strengthen his character. Its student life, social opportunities, and athletic sports are all additional elements of usefulness and of strength. It has endeared itself to three or four generations of the flower of our American youth, and it is more useful to-day than at any earlier time.

For all these reasons I am anxious to have it preserved as part of our educational system, and so adjusted to the social and educational conditions which surround us that a college training may be an essential part of the higher education of an American, whether he is destined to a professional career or to a business occupation. It seems to me clear that if the college is not so adjusted it will, despite its recent rapid growth, lose its prestige and place of honor in our American life, and that it may eventually disappear entirely, to the great damage of our whole educational system.

NICHOLAS MURRAY BUTLER

COLUMBIA UNIVERSITY.

VIII

DISCUSSION

TEN YEARS OF HIGH-SCHOOL GROWTH

In Search's *Ideal school*[1] the charge is indirectly made that the public high schools are not doing college preparatory work as well as they did thirty years ago. Since the courses of both college preparatory and other high-school students are in many respects identical, the charge, if proved, is a most serious one, because it proves that the work of the public high schools is deteriorating. Any careful student would question the truth of Search's charge, for several reasons.

His book appeared in 1901, and yet the Harvard College statistics, given as the basis of the charge, come down only to 1894. All teachers know that the high school as it exists today is little more than ten years old, and that no other period of high-school development can compare in importance with the last five years. Again, in a work as scholarly as the *Ideal school* one would expect the investigation pushed to other schools than Harvard College before drawing any conclusion.

A careful study of the Harvard tables (*vide* Report of the President, 1899-1900, p. 7) reveals some very interesting facts.

In the first place, Search's percentages are absolutely worthless, because he fails to reckon with a strong disturbing element in the Harvard statistics. The students entering Harvard College are arranged in the President's report, by years, in the following columns: (a) From public schools, (b) from endowed schools, (c) from private schools, (d) private pupils, (e) from colleges, including other Harvard departments, (f) total, (g) percentage from public schools. The disturbing element is in column (e) from colleges, including other Harvard departments. In the year 1871 there were only 8 in this class, in a total of 203. In 1894 there were 94 in this class in a total of 470. Before any conclusions can be drawn from the Harvard tables, bearing on the character of public high-school work as compared with that of private schools, column (e) must be taken out of the totals entirely. For various reasons, column (b) from endowed schools must also be taken out. The two columns which shed light on the problem at hand are columns (a) from public schools and (c) from private schools.

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[1] New York: D. Appleton & Co., 1901.

We give by years the number of students entering Harvard College from these two sources.

	PUBLIC SCHOOLS	PRIVATE SCHOOLS
1871	70	42
1872	50	30
1873	72	37
1874	54	25
1875	80	32
1876	51	35
1877	86	31
1878	80	36
1879	72	47
1880	69	41
1881	69	25
1882	82	51
1883	65	62
1884	63	73
1885	73	63
1886	96	70
1887	78	78
1888	94	69
1889	98	99
1890	95	82
1891	128	147
1892	135	116
1893	142	133
1894	126	114
1895	165	114
1896	134	112
1897	143	106
1898	134	106
1899	158	124
1900	212	105

These figures reveal no startling tendencies in a downward direction for public high schools. The first ten years show no marked changes in the relative positions of the two columns.

Beginning with 1882, there is a steady increase in the number of students coming from private schools. This reaches its maximum in 1891. Private schools show a steady decline from that date. The public-school figures give the first indication of new life in 1886. From that time on they show a steady increase. In 1891, 128 public high-school students entered Harvard College. In 1900 there were 212, an increase of more than 65 1-2 per cent. In 1891, 147 students entered Harvard College from private schools. In 1900 there were 105, a loss of more than 28 per cent.

A safe conclusion to draw from the Harvard tables, so far as they shed any light on the public high-school problem, is that during the last ten years public high schools have proved themselves excellent fitting schools for one of the best universities in the country.

In his last report President Eliot shows that the number of public schools which from time to time send students to Harvard College is increasing.

In the ten years, 1876–1885, there were 82 such schools.
" " " " 1881–1890, " " 96 " "
" " " " 1891–1900, " " 163 " "

In 1895 there were only 13 public schools outside of New England which sent pupils to Harvard College. In 1900 there were 29 such schools.

> During the last four years the percentage from public schools has kept up well and compares favorably with the average percentage of the twenty-six years preceding. Considering that the number of persons who entered the four classes of Harvard College in 1900 is three times as large as it was in 1871, the persistence of the percentage from public schools is highly satisfactory.—President's Report, 1899–1900, p. 7.

Contrast this with the picture drawn by Search:

> The result at the present time is that the high schools, as shown by this table, furnish less than twenty-seven per cent. of those admitted to Harvard College. Notwithstanding that the high schools of New England for thirty years have been, more and more, making of themselves fitting schools, their contribution to Harvard College during this time of greatest endeavor has been declining. The average young person who seeks the best training goes where he can find the greatest value. Either the high schools should qualify themselves to compete with private institu-

tions, or they should cease to bend everything to college preparation.—*Ideal school*, p. 36.

In order to learn how accurately this picture portrays the condition of public-school work for the whole country, the writer addressed a circular letter to a large number of college and university presidents, asking for comparative statistics on this point. The following are taken from the replies:

Thirty-six per cent. of the entering class at Wesleyan University in 1893 came from public high schools. In 1901 the percentage of public high-school pupils in the Freshman class at the same institution had risen to 60 per cent.

Forty-six per cent. of the students now at Bucknell University were prepared in public high schools.

Thirty-five per cent. of this year's entering class at Swarthmore College were prepared in public high schools.

Lafayette College reports 34.9 per cent. of the Freshman class in 1876 as coming from public high schools. This rose to 47 per cent. in 1901. At the University of Pennsylvania, the percentage of public high-school pupils in the first class rose from 28 1-5 per cent. in 1895 to 30 5-9 per cent. in 1901.

At Columbia, the percentage of public-school pupils entering the Freshman class rose from 16.6 per cent. in 1897 to 24.8 per cent. in 1901.

Going west we find the public high school much more in evidence. As one president of a State university puts it, "Here we depend entirely on the high schools." No western college reports less than 73 per cent. of its students as coming from public high schools. Ninety per cent. seems to be a fair average. One of the largest State universities reports "practically all" of its students as coming from the public high schools.

The registrar of one of the leading universities in the West has the following to say on the general question under discussion:

The development of high schools in our State up to 1890 was very slow; since then it has been very rapid. This has resulted in the disappearance of many private schools. Moreover, our best students come from the high schools. We are willing to take it for granted that the best private schools have better teaching and give more careful attention to the individual. In some cases the private schools give a better preparation for the Uni-

> versity. Yet, except in rare individual cases, the private students nowhere hold their own with high-school students. The high-school students, generally speaking, are better stuff to begin with; they are sturdier, more self-reliant, and respond better to the liberty of the University. As a class they are more seriously ambitious and have higher ideals.

Statistics furnished by Princeton University throw some light on the subject under discussion. In a group of fourteen honor men in the Freshman class in 1884-85, only one came from a public high school. In 1900, in a group of thirty-one honor men, fourteen came from public high schools. The very opposite of Search's contention seems therefore to be true, that is, that the public high schools were never so much in evidence in colleges and universities as they are to-day.

The following statistics, compiled from the last report of the Commissioner of Education (vol. ii, 1899-1900, p. 2122), show the phenomenal development of public high schools in the last ten years. The attendance has increased from 211,596 in 1890 to 519,251 in 1900, an increase of 145 per cent. In the same time the attendance at private academies and seminaries has increased from 89,400 to 110,797, an increase of little more than 12 1-2 per cent. Attendance at public high schools increased steadily during the ten years, while attendance at private schools reached a maximum in 1894, when the number was 118,000.

It is gratifying to learn that this increased attendance has not simply rushed to so-called English or Commercial Courses, as is shown by the following statistics:

PERCENTAGE OF PUPILS STUDYING:		1890	1900
1. Latin	Public	41.20	50.61
	Private	37.00	46.92
2. Algebra	Public	52.20	56.29
	Private	45.00	49.40
3. Geometry	Public	24.60	27.39
	Private	19.60	23.72
4. General history	Public	28.20	38.16
	Private	33.10	36.11
5. Greek	Public	3.00	2.85
	Private	8.00	9.77

The following table gives further evidence that the work in the public high schools is not deteriorating.

PERCENTAGE OF GRADUATES PREPARED FOR COLLEGE

	1890	1900
Public	28.58	30.28
Private	61.37	46.52

Altho the attendance in public high schools has increased 145 per cent. in the last ten years, the percentage of those in attendance who graduate has remained practically the same (12 per cent. in 1890—11.89 per cent. in 1900).

The following table, showing the number of pupils reported as preparing for college, suggests some interesting lines of thought:

	1890	1900
Public	11.84	10.82
Private	21.24	31.87

We must be careful in the use of these figures. If the efficiency of the public high school as compared with the private school varies directly as the percentage of pupils sent to college, then the above table proves conclusively that the work of the public high school has deteriorated in the last ten years. But we have already shown that a larger per cent. of those who do go to college come from the public high schools. One could with much reason lay down the apparently contradictory law of the efficiency of the public high school as follows: The efficiency of the public high school varies directly as the percentage of college students coming from the public high schools, and inversely as the percentage of its own pupils who go to college.

Tuition in the public high schools is free, books and supplies are furnished. Board is provided at home. Only one reason need be given to explain the presence of the young student in the high school, that he wants an education. Most of the young people in attendance at other schools, generally away from home, would give at least two reasons: (1) that they want an education, (2) that they cannot get what they want in the public high school. The decrease of percentage of public high-school pupils going to college indicates that a larger number of young people have their educational wants supplied at home. The equipment of school laboratories, the growth of libraries [2] in all cities, the addition of college-trained teachers to high-school faculties, all tend to make the high school an excellent place to do advanced high-school work, or in other words, elementary college work.

College presidents tell us that many students should leave college after having been in attendance for two years. Note, for example, the innovation, established by several of the Western universities, of granting the degree of associate for two years of college work. It is too soon to say that the colleges will cut out two years of their work. But the next ten years will see the high schools all over the country encroaching very seriously on the work of the Freshman and Sophomore years of the colleges. This means that a smaller percentage of high-school pupils will go to college, and that ultimately the course from the high school to the university will be shortened.

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[2] In 1890 the public high schools reported 1,068,542 volumes in their libraries; in 1900 the number had risen to 2,727,003 volumes. The value of the grounds, buildings, and apparatus, rose from $52,634,684 in 1890 to $96,131,695 in 1900.

IX

REVIEWS

Staatliche Schulaerzte—Von Professor Dr. G. LEUBUSCHER, Regierungs- und Medizinalrat in Meiningen. (Sammlung von Abhandlungen aus dem Gebiete der pädagogischen Psychologie und Physiologie.) Berlin: Reuther & Reichard, 1902. 58 p. M. 1.60.

It is a significant fact that the school physician in America, when there is one, gives most of his attention to the subject of contagious diseases and the effort to exclude such from the schools. In Germany, on the other hand, the medical officer gives the most of his thought to the careful examination and study of the general physical conditions of the children as they enter school, and at stated intervals thereafter. Chronic and acute diseases, as well as tendencies to abnormality and ill health, are carefully noted, and the school physician, in co-operation with the teacher and parent, strives for the improvement of health and the prevention of all abnormal tendencies as well as for the recognition and cure of positive disease.

In this monograph the author calls attention to the fact that, as the child progresses in school age, he is beset by an increasing number of dangers to health. It is important to distinguish these from the wretched home conditions, poor food, and other unhealthful influences for which the school is not directly responsible. The success of the school physician's work will depend in part at least upon the intelligent interest and active support of the teacher. Strong emphasis is placed upon the importance of including thoro and practical instruction upon matters relating to school hygiene in the normal schools and in all institutions for the training of teachers. The blanks to be filled out by the parents, teachers, and physicians, with the instructions which are sent with them, will be suggestive for those who may wish to undertake similar investigations.

Some account is given of the "school-physician movement" in different parts of Germany, and then follows a description of the organized effort for the medical examination and observation of the school children in the Duchy of Saxe-Meiningen which was begun in 1900. Forty thousand children were examined the first year, and many interesting figures are given showing the results of examination, with the number and percentages of the children suffering from different abnormal conditions. The numbers affected by some of the diseases noted seem startlingly large, but in many cases much of the ill health is due to unhygienic occupations in which the children are engaged before and after school hours. The investigations of the first year resulted in sending many children to hospitals and physicians for treatment. In some schools gymnastic exercises were arranged, more definitely to correct faulty positions and tendencies to deformity. A considerable number of mentally deficient pupils were recommended for the "Hilfsklassen," where they would receive individual and special instruction and help. Much was done also for the improvement of the schoolhouses and surroundings.

Two recommendations, given particular emphasis by the writer after the first year's experience, relate to cleanliness. The first advocates the establishment of shower-baths in all schools, and the second urges greater cleanliness in the care of schoolrooms, and suggests the use of a floor oil to prevent the rising of dust in the air.

This report does not treat any phase of the subject exhaustively, but contains much useful information about the "school-physician movement" which is to receive more attention in this and other countries in the immediate future.

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A Latin grammar for schools—By ANDREW FLEMING WEST, Professor of Latin in Princeton University. (Twentieth Century Text-books.) New York: D. Appleton & Co., 1902. xi+262 p. 90 cents.

It is undoubtedly the privilege of every age to restate its knowledge in terms of its own needs and its own ideals. Even when the facts remain the same, the judgment of their relative value and of their bearing upon life, intellectual or practical, is reasonably certain to change as the result of widening experience, and it is fortunately possible to say that there are very few departments of thought in which even the facts remain the same from decade to decade. One might think, for instance, that in the field of normal Latin grammar the only novelties possible would be in the way of more precise interpretation of definitive facts. But even a cursory examination of the pages of the *Archiv* would reveal the falsity of this view, and, to mention perhaps the latest notable case, it was left for a monograph of the year 1901 to prove that there was nowhere in existence an accurate statement of the facts in regard to the use of the genitive and accusative with verbs of remembering and forgetting. A Classical Series of Twentieth Century Text-books is therefore a very natural and entirely commendable undertaking, particularly because this series is to deal with the work of the secondary schools, where a really new point of departure was established in 1899 by the Report of the Committee of Twelve appointed by the American Philological Association. The author of the book under review was a member of that Committee, and possibly for this reason among others there devolved upon him the writing of the most difficult volume of the series. For Horace's acute remark, *Difficile est proprie communia dicere,* is, in at least one of its possible senses, very true of such a task as this. The author is well aware of the impossibility of "writing with originality without writing fiction," and gracefully acknowledges his indebtedness, especially to American scholars, to "the penetrating researches of Hale, the pure brightness of Lane's renderings, the lucid order of Gildersleeve, the exactness of Lodge, the mastery of summary statement in Bennett, the steady good sense in Harkness, and the critical carefulness of Allen and Greenough." But we fear that the brilliancy of such a composite photograph would have been overpowering, and the "*pueruli* for whom the book was made" have perhaps ground for thankfulness that Professor West has tempered it a little.

The scope of this Grammar is in precise terms limited to the requirements of the school. "If Latin grammar is to be understood and relished by boys, it must be confined to the most necessary facts, and these must be presented in a clear and pleasing way. . . Living directness of statement, even at the risk of missing the finer shadings, is better than inanimate precision. . . Scientific grammar is not for boys, but for men" (p. vii). But these requirements are by no means slight, and there is certainly an irreducible minimum. School Latin does not differ from college Latin by being written in words of one syllable, which in turn involve syntactical problems of like simplicity. A school grammar should present, and present adequately, the standard usage of the best period, and it must to some extent take account also of those individual peculiarities of phrase which mark every writer, whether he be a Sallust, a Vergil, or a Cicero. For whether the benefit to be gained from the study of Latin be the increased power to use aright the incomparable resources of our native tongue, or æsthetic pleasure, or merely mental discipline, the desired result can only be attained, in school as in college, by cultivating an alertness and nicety of observation, and a clarity of analysis and comprehension that, with all due respect to Professor West, must always take account of "the finer shadings." In the opinion of the present reviewer even Professor Bennett's Grammar would be improved by some additions, and especially by some amplifications of statement. If this be reasonable, what shall we say of our author who, tho using much larger type and wider spacing, gives to Syntax only 106 pages as against 123 in Bennett's book, and 121 in the smaller work by Lane and Morgan?

But orthodoxy is a relative term. Perhaps some day we shall have to be content with "Six Weeks in Latin Grammar." Those who agree with our author's estimate of the "necessary facts" (the principle is so nicely applied that in section 244 we are told "*abs* is rare" in order that the boy's overtaxed memory may be spared the burden of the specific phrase *abs te*) will find the book as a whole well conceived and logically developed. The statements are cast in an extremely lucid form, and are in many cases deserving of special commendation for their succinct accuracy. A typical instance is the phrasing of the law for the termination of the ablative singular in adjectives of the third declension, having one ending. One of the best things in the book is the handling of subordinate clauses, which are classified under three main *uses,* as noun, adjective, or adverb, distributed under three main *forms,* as introduced by a conjunction, a relative, or an interrogative. The typography, with its large yet judiciously varied print, gives the reader positive pleasure, and puts this Grammar in a class by itself.

And yet—we have a suspicion that our author must be an academic philosopher. He seems so clearly to approve of the maxim *Modo hoc, modo illud probabilius.* If the book is to present only "necessary facts," why is the genitive *amphorum* cited in section 62, and in 105 the plural *cœli*—a form which occurs once in Lucretius, and in Arnobius, and which is for the rest a Hebraism of the Church writers? Why *rare* (236)? Is our *puerulus* to browse in Columella? He is credited after all with a remarkable memory, for he is expected to assimilate whole tables of endings; witness sections 99, 167, 168. But surely boys should deal with the "living directness" of paradigms, not the "inanimate precision" of isolated endings. On the other hand, we find under Accent (38) not a word about enclitics, *ac* is omitted from the list in 34, and *fio* in 36. Nothing is said of the declension of *ambo* in 131 nor of the construction with *fretus* in 389. We are favored in 361-62 with a list of fourteen words involving the construction in question, but are denied the familiar *peto, postulo, quæro* in 319. Incidentally, it is a pity that Professor West did not take from the Ellendt-Seyffert Grammar, of which, in the preface, he expresses his high appreciation, the statement of the limitations of the use of two accusatives with *rogo,* perhaps a "finer shading," but an exceedingly serviceable one. In 530 there is no mention at all of *posteaquam,* of which Merguet's *Lexicon to Cicero's Speeches* gives ninety-two cases to eighteen of *postquam,* and the present tense is by fair implication excluded from use with conjunctions of this class. But there are inconsistencies of a more pronounced character. *Alterius* by inevitable inference from section 36 has a long penult (which is probably correct for prose); in 112 its penult is short. In 677 we learn that the order in *mihi crede* "is never changed," but our *puerulus* with his retentive memory will recall the fact that he read in 330 *crede mihi.* But perhaps, as our friend Rip Van Winkle would say, "This time doesn't count." It is certainly vitally important that the syntax allowed in poetry should be sharply distinguished from the normal prose usage. But Professor West, while for the most part utterly ignoring the distinction, specifically makes it in some cases, as in 329. The results are absolutely misleading, and will make accurate Latin prose composition an impossibility. To cite two of the most vexatious cases: in 496 *ne* with the Imperative is treated as interchangeable with *noli* and the Infinitive, and—*O tempora! O mores!*—in 258 the paradigm sentence for *quamvis* shows the Indicative, which in 572 we are in precise terms and without any limitation informed that it may take. And yet, in spite of utter disregard in this case of Cicero's feelings, our author is so considerate of his usage in 251 as to say that "*igitur* is postpositive," inferentially always, for in 252 the same statement is made about *enim*. But our bright *puerulus* will note, as he reads Sallust's *Catiline,* that *igitur* is always prepositive. In 669 *fere omnes* is cited as an instance of the rule that adverbs regularly precede. But in this phrase the normal order is *omnes fere.* Reid's note on Cicero's *Cato Maior* 1, 2, is rather destructive of the distinction made in 236 between *certe* and *certo.* In regard to the construction with verbs of memory (364-65), and in particular the statement that *recordor* "takes the genitive, but oftener the accusative," we would respectfully refer Professor West to Dr. Babcock's monograph in the Cornell Studies, published last year. But our keenest curiosity has been aroused by section 233. *Oportet tibi, you ought—you must.* It is a pity that we cannot have Quintilian's opinion of this phrase.

In the *Autocrat of the breakfast table* Dr. Holmes speaks somewhere of the futility of arguments on special points between people who differ on the fundamental principles upon which these points depend. It is perhaps not impossible that some of the cases of omission or inclusion here criticised may seem to some a logical outcome of Professor West's conception of the "necessary fact." But the majority of them cannot be so explained. Simplicity is an admirable quality; but a simplicity which is achieved by the exclusion of inherent difficulties (*i. e.,* "finer shadings," *vide* the treatment of *quamvis*), creates so false an impression as practically not to be true at all. In this case the problem, or rather, the series of problems, was exceedingly difficult, and perfect consistency perhaps almost unattainable. But ability to reason accurately rests ultimately upon ability to make a just discrimination between two sets of closely related ideas, and it is our firm conviction that for the development of this inestimable power education has at its command no more effective instrument than Latin syntax, when properly taught. It is along this path that a school grammar should guide the growing mind. But both for the analysis of the sentences of the great Latin authors and for the rendering of idiomatic English into no less idiomatic Latin in prose composition, the student will need more, far more, than he can get from this volume in its present form.

NELSON G. McCREA

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Elementary physical geography—By WILLIAM MORRIS DAVIS, Sturgis-Hooper Professor of Geology in Harvard University. Boston: Ginn & Co., 1902. xviii, 401 p. $1.50.

During the latter part of the nineteenth century, three distinct phases have appeared in the manner of presenting the subject of physical geography to the young student. In the first of these a general survey was made of the surface of the earth as a whole, and the important features were described. The result was that the pupil studied the earth's surface in the same cold and unappreciative manner that he would the distant members of our planetary system.

In the second phase an attempt was made to present to the student an outline of our present knowledge concerning the whole realm of terrestrial physics, with the result that a mass of information that no young pupil could possibly assimilate was packed between the four hundred pages of a 12mo textbook with a condensation that would put to shame an encyclopedia. The main details of fact and theory of an independent science were crammed into a space of fifty pages, in which no place could be found for the insertion of those details without which a clear understanding of the matter presented would be absolutely impossible.

In the third phase, that upon which we are now only fairly entering, the student has presented to him the physiographic processes which have caused the surface of the earth to assume its present conditions, and the local illustrations of this work are pointed out on every hand. Moreover, it is made plain that these changes are now in progress on as large a scale as ever, and that while we use the rivulet and its limited borderland as an illustration of the mightier changes on the earth's surface, these examples are at the same time actually taking a part in the production of those widespread changes. Thus the condition of the earth's surface is made a matter of live interest, and is not viewed entirely as a matter of ancient, yes, very ancient, history. The various departments of terrestrial physics are drawn upon for information only so far as is absolutely necessary for making plain the action of physiographic processes, and the details of astronomy, geology, and meteorology are rightly left to separate treatises, where there is space for their proper development and presentation.

Professor Davis had been taking an active part in developing the latter method in the systematic instruction offered the students in his department in Harvard University which he had succeeded in making one of the most influential centers in the country in the field of educational geography. The results of this experience were given to the public some years ago in a text-book of high-school grade. He has written the present work for the use of pupils in the last years of the grammar school or the early years of the high school.

Professor Davis's arrangement of his material is just that which he has found necessary for a logical presentation of the subject. He begins with the earth as a unit or whole, or, as he himself puts it, the earth as a globe, and briefly states those conditions and properties pertaining to the earth as such, which are important in themselves and which it is necessary to know something about in connection with the matter subsequently treated.

In any brief treatment of physical geography there must be taken for granted a certain preliminary training in geographical conceptions which is furnished by the usual elementary courses in geography which are carried thru some years in the ordinary primary-school curriculum. Basing his plan upon this general knowledge, Professor Davis begins his detailed treatment of his subject with a consideration of the atmosphere.

Instead of adopting a common practice of presenting a systematic array of facts in regard to the atmosphere such as ought to appear only in a treatise on meteorology, the author has dwelt at sufficient length on those atmospheric phenomena which must be used to help account for the physiographic processes which he is called upon to outline and explain. The same philosophical spirit which so strongly marks Professor Davis's *Elementary meteorology* is displayed in this presentation. The oceans come next in the course of treatment, and for several reasons. It is impossible to properly treat land forms without continual appeals to the effects of water action, and the great terrestrial reservoir of course plays a most important part in this matter. The enormous extent, both absolute and relative, of the water surface gives it direct claims to early consideration; but a very important fact also is that the great uniformity of water conditions, as compared with those of the land, makes the simpler treatment of the former a very good preliminary preparation for the necessarily much more complex treatment of the latter.

The chapter on Mountains is one of the most apparently revolutionary in the whole book. The complexities of mountain formations are here explained in a manner so simple as to be readily comprehended by very youthful pupils. Many a teacher, too, who has struggled to obtain a clear idea of this subject, will be delighted at the manner in which Professor Davis has presented this long puzzling matter.

The list of questions to be found at the end of each chapter will prove particularly useful to teachers, for not only are they calculated to get at the very essence of the topics to which they refer, but they reflect the most modern aspects of the science as displayed in the text.

FRANK WALDO

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Inductive sociology—A syllabus of methods, analyses and classifications, and provisionally formulated laws—By FRANKLIN HENRY GIDDINGS. Pp. xviii+302. New York: The Macmillan Company, 1901. Price $3.00.

Experimental sociology. Descriptive and analytical. Delinquents—By FRANCES A. KELLOR. Pp. xvi+316. New York: The Macmillan Company, 1901. Price $2.00.

A small number of students of sociology has done practically everything that has been accomplished in casting sociological data into scientific molds. Notwithstanding the very substantial progress which has been made in the study of sociology during the last decade, thousands of pages of sociological literature contain little more than slices from loaves representing the special social sciences, buttered with a diffusion of words, made into sandwiches of convenient size, and put into lunch-baskets labeled "sociology." Literature of this description has done much to throw sociology into disrepute among sane people.

The reader need scarcely be told that Professor Giddings is one of the small group of sociologists alluded to above, and that the volume under review is a valuable addition to that class of sociological literature which contains a well-differentiated *nucleus*, and on the basis of which the future science of sociology must be developed. This nucleus and unifying principle of the *Inductive sociology* is found in the author's well-known principle of like-mindedness. This is the cord upon which a great wealth of suggested material is strung. The book is clear, strong, systematic, and logical from cover to cover. It is a unified and coherent whole—something almost unique in the class of books to which it belongs.

The secondary title, "A syllabus of methods, analyses and classifications, and provisionally formulated laws," is an exact description of the contents of the volume. Dogmatism is something entirely foreign to the author; yet his definitions, principles, and "provisionally formulated laws" are models of conciseness. Every chapter bristles with vigorous and clear-cut statements, many of which put definite content and scientific meaning into words of common usage; for instance, the definition and discussion of the word institution (p. 184). No one can read that paragraph without clarifying and crystallizing his earlier notions with respect to the word institution. Another illustration is found in the discussion of social force. The terms "social force" and "social forces" are used by thousands of persons. How many have attempted to define these terms? Professor Giddings supplies the definitions and distinguishes between social forces and socializing forces by limiting the former to processes of concerted volition arising in society already in existence and created by this society, while the socializing forces are the forces which create society (p. 69). Similar illustrations could be added by the score, and they would all reflect the clear logic and vigorous thought of the author. And it is this which gives the book value, not only to the sociologist, but also to the historian, political scientist, and economist.

The author naturally accepts for sociology the aid of all known methods (p. 10), but in the estimation of the reviewer Professor Giddings's greatest service in the present volume lies in the masterly manner in which he has succeeded in filling in the theoretical categories, the essentials of which had been published in earlier volumes, altho in less systematic form, with concrete material. The United States Census furnishes the finest collection of government statistics in the world. The resources of the census volumes have never yet been adequately exploited by students in the social sciences. Professor Giddings draws upon this and similar sources again and again, and the student who works out the many tables of the volume will see the social world in which he lives with clearer eyes. A single set of tables even throws valuable side-lights on almost any branch of social science.

The opposite of sociality, says Professor Giddings, is criminality. Miss Kellor's work on *Experimental sociology* may be regarded as an expansion of Professor Giddings's discussion of sociality classes. This volume was not prepared as a text-book, but rather as "an appeal to the sympathetic interest and co-operation of the public." It is a study of methods of investigation of delinquents and their treatment, together with suggestions for the prevention of criminality, based upon comprehensive and patient inquiries, observations, and experiments conducted by the author. The author gives us new glimpses of the social underworld. While the volume is by no means exclusively devoted to colored women convicts, it nevertheless brings its chief contributions to this field of study. In reading the book one is impressed with the almost unlimited amount of disagreeable work, frequently under exasperating circumstances, which the author must have devoted to this work. Not every student would be willing to devote time and energy to marching enthusiastically thru "the most repulsive regions," as Professor Henderson truly characterizes this field of investigation in his Introduction to Miss Kellor's book.

According to the author, the methods and data of experimental sociology include those of anthropometry, psychology, and environment, and the purpose of her investigations is the "synthetical study of the causes of crime." She has visited many prisons, and her systematic studies have brought out many facts relating to characteristic criminal types, their influence on associates, and the prevalence among convicts of certain traits and qualities; such as suspicion, superstition, vanity, obstinacy, fear, etc. In the chapter on anthropometrical measurements, percentages are employed in expressing certain facts; thus, "of white criminals 66 per cent. were below 60, . . . of negroes 19 per cent. were below 60"; or, as in the following chapter on psychological tests, "13 per cent. of white criminals and 4 per cent. of negroes declared they could feel no pain at the maximum pressure." Expressions in this form are exceedingly numerous, and it would add strength to the book if the author would state, whenever practicable, how large the numbers are upon which these percentages are based. Averages and percentages *may* be extremely fallacious.

The author's experience in gathering data enables her to make detailed suggestions concerning permanent laboratories in penal and correctional institutions. If these suggestions are carried out, much valuable information will be secured and tentative formulations may be superseded by permanent conclusions. The author modestly disclaims ability to say a final word on the valuable studies which she has begun. The chapters on penal systems and defects in the penal and correctional systems should be impressed upon every officer who is connected with the administration of these institutions. The discussion of the relation between criminal sociology and criminal jurisprudence brings out some facts which will be new to most readers, at least those in the North, and contains suggestions which are as novel as they are thoughtful and interesting.

The book as a whole is primarily a compilation of classified and largely original facts supplemented by interpretative comments of the author. The facts find application in many lines of study and open a field of inquiry which is capable of yielding valuable results.

B. H. MEYER

UNIVERSITY OF WISCONSIN

The elements of Greek—A first book, with grammar, exercises and vocabularies, —By FRANCIS KINGSLEY BALL, Ph. D. New York : The Macmillan Company, 1902. $1.00.

Mr. Ball is to be congratulated upon producing an elementary Greek book that is concise, clear, and—rarest of qualities in this kind—interesting. His aim thruout is to strip the study of its terrors. Beginners in Greek are too often frightened by the *sesquipedalia verba* of the grammars, too often confused by the premature consideration of such difficulties as the euphony of consonants and the principles of accent. Mr. Ball dilutes these difficulties, spreading them thinly over many pages, and giving in each lesson only enough for average capacity to assimilate. Thus the second lesson deals with oxytone feminine nouns of the first declension and the accent thereof. In the third (which is mainly a review of the second) the adjective and the article are introduced in the feminine, without necessitating new rules for accent; and the same method is pursued with masculines of the second declension in lesson 5. Especially to be commended is the educational soundness of teaching the passive voice before the middle. The principles of grammar are presented early, references being constantly made to pages 219-228, where the main points of syntax are briefly but clearly stated. Daily reviews are insisted on thruout, and cross-references abound.

The book should prove especially valuable as a preparation for Xenophon, as the reading lessons, the vocabularies, and the lists of verbs (pages 207-218), are based on the Anabasis.

H. J. BURCHELL, JR

COLUMBIA UNIVERSITY

X

NOTES AND NEWS

The Country School So much has been said and written of late about the needs and policies of the schools in rural districts, and the problems which such schools present are so many and so important, that it is a satisfaction to take note of specific efforts to make successful application of the principles which are now generally agreed upon. County Superintendent Kern of Rockford, Ill., has recently published a pamphlet of some seventy-five pages, called "The country school and the country child," which shows what can be done for the betterment of rural school conditions, and how, by an educational officer of zeal and intelligence. The illustrations showing school-houses, school gardens, and school decorations, are admirable, and the library lists and courses of reading are suggestive and helpful.

Rockford and Winnebago county are in that part of Illinois and of this nation where some of the very best school work of the whole United States is done, and where the highest type of school spirit prevails among both teachers and pupils. We wish that Mr. Kern's work might be widely imitated by county superintendents in every part of the land.

Dr. E. E. White By the death, on October 21, of Emerson E. White, elementary education in the United States is deprived of one of its most influential representatives and leaders. Varied as Dr. White's experience had been, it was the elementary school which interested him most—its administration, its course of study, its moral discipline, and the preparation of its teachers. From the foundation of the National Educational Association Dr. White had been prominent in its activities, and for a long time he was a conspicuous leader in its counsels. His books on education and his text-books have been much used for a generation, and he had helped and stimulated thousands of teachers by his spoken words.

Dr. White's philosophy and his theory of education were robust and well-knit. They were not much influenced by recent scholarship, but they were clearly thought out and always cogently expressed. Dr. White had an uncommon felicity of expression, and when his utterances were tendered by strong feeling, he frequently rose to genuine eloquence. His tribute to Colonel Parker at Minneapolis in July last is an admirable example.

Dr. White's life was a long, an active, and a useful one. He will be greatly missed.

Three New University Presidents

The closing days of October were marked by the inauguration ceremonies, in rapid succession, of Frank Strong as chancellor of the University of Kansas, of Edmund J. James as president of North-Western University, and of Woodrow Wilson as president of Princeton. On each occasion the exercises were dignified and appropriate, and on each words of highest wisdom were spoken. President Hadley of Yale, in making the principal address at the University of Kansas, and President Wilson of Princeton, in his inaugural, put into forceful and eloquent words the fundamental principles and standards of judgment and appreciation, as to which the large majority of men and women engaged in the work of higher education are agreed. President James laid proper emphasis upon the naturalness of our, in some ways, unsystematic system of higher education, and its consequent value to us as a people.

These three gatherings offered cumulative evidence of the power of idealism in American education and of its force in shaping American life. Nothing is more false than the superficial judgment, often made, that the colleges and universities are caught in the current of materialism and commercialism, and have in consequence lost their old significance. This is the word, well-meant but untrue, of the time-honored *laudator temporis acti*. The colleges and universities of to-day know and teach an idealism that is far more profound and far more stable than the idealism taught fifty years ago. The old idealism made science its foe, the new idealism counts science an ally.

The following paragraph from the London *Journal of education* for November shows that the manufacturers of bogus degrees are as active as ever. Cannot the school and college men of Illinois secure such action from the legislature this winter as will put an end to this particular form of fraud?

BOGUS DEGREES FROM BOGLAND

The following letter was forwarded to us for publication by Messrs. Paton. Comment is needless. Pigeons—or rather knaves and fools combined—there will always be, in spite of all warnings; but cannot the State of Illinois take measures to extirpate this University of rooks?

Private. TRUMERA, MOUNTRATH, IRELAND.
August 23, 1902.

DEAR SIR: I can procure the following Degrees for suitable persons, Ladies or Gentlemen, from an University, and College, both in the State of Illinois, America: LL. D., costing £13; Ph. D., £13; D. C. L., £13; D. D., £20; M. A., £8.

These Degrees are not sold in the ordinary sense of the term, but the American authorities, like others, must live.

I can give you a commission of £1 (one Pound) on each Degree, and 2s. 6d. for postage, total £1. 2s. 6d., which you can deduct before forwarding to me.

Yours truly,
RICHD. BRERETON, Ph. D., LL. D.

Messrs. J. & J. Paton.

P. S.—Diplomas are sent direct from America.—R. B.